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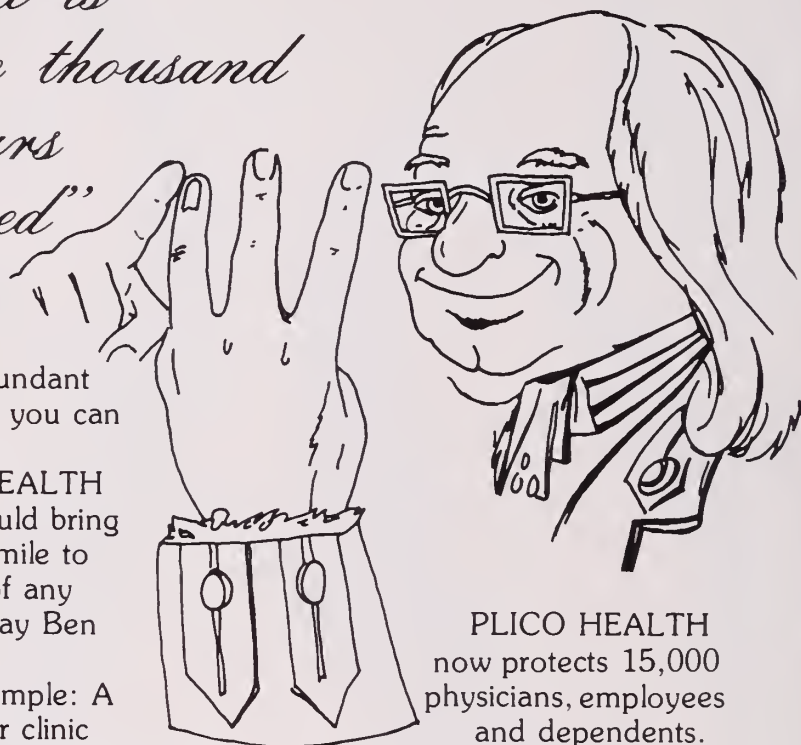
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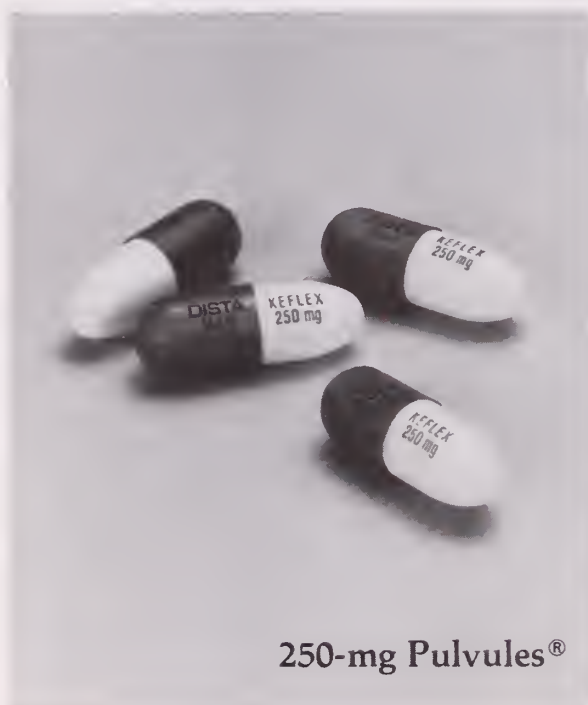
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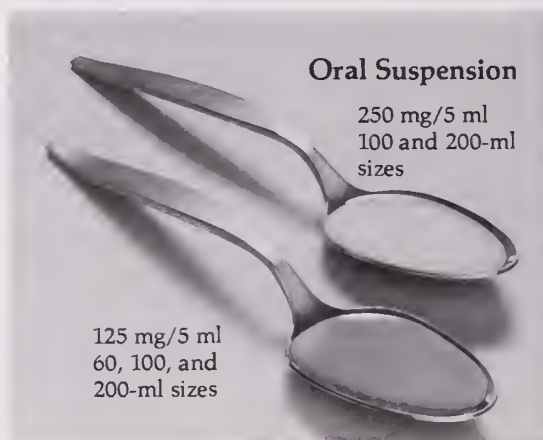
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Uninformed Consent

For more than a decade, the American people have been told by one demagogue or another that their medical care is much too important an issue to leave in the hands of doctors. And for more than a decade, doctors have steadily relinquished influence in all issues of medical care. Today, physicians have relatively little authority in the design or the rendering of medical care.

The results of this reduction of influence and authority have been disastrous and, in the years ahead, will become catastrophic. Mediocre medical care, vacant hospitals, non-practicing physicians, and long waiting lists for nonemergency surgery will be commonplace before the turn of the century.

Greater than these tragedies, however, is the fact that the American people — who, by their silence, empowered the demagogues to determine the destiny of their medical care — are totally unaware of what has happened. They have never heard of DRGs or HPCs or PPGs or FMGs, and they certainly couldn't imagine the impact these initials have on the quality and cost of their medical care. They

don't know that politicians and judges and bureaucrats practice medicine, and they certainly don't understand that such fiat practitioners assume no responsibility or liability for the results of their actions. They have heard of the cost of medical care, but they certainly can't name the items that constitute medical care. They have heard of Baby Doe, but they certainly can't realize that "Baby Doe" legislation could bankrupt our nation.

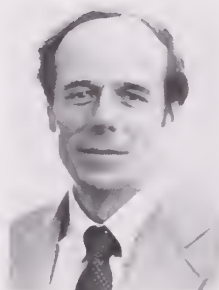
What the American people *don't* know about their new system of medical care could fill the pages of a book, and the reason they don't know is no accident, no mere oversight. Demagogues succeed only when the people remain ignorant. Informed people would never consent to the transfer of authority from experts to dilettantes, yet that is what is happening. The dabblers are managing medical care today and they will continue to manage it so long as they can rely on uninformed consent.

Isn't it time to inform the people of this nation what is happening to their medical care? For the time being, we are capable of the task, but if we wait much longer even we won't understand.

—MRJ

Would you rather not know?

Some wise person once observed that among the things we are better off not knowing are the details of how you make either breakfast sausage or state laws. The same admonition may apply to curiosity about how decisions are made in an organization as large as the 4,000-member Oklahoma State Medical Association. Decisions, however, must be made on a large variety of issues, frequently in a short time.



The most basic decisions about the direction of our organization are, of course, made by our House of Delegates at the annual meeting of the association. The real strength of our organization lies within the democratic structure of this group, which represents all physicians in Oklahoma.

The first special session of our House of Delegates since 1977 was held on Saturday, November 19, 1983, and was attended by nearly 90 physicians. This is certainly a measure of the degree of involvement of our members. In this special session the delegates made the decision to continue OSMA participation in peer review activities by a majority of approximately 85%. An issue with the broad impact of peer review, drawing the significant minority disagreement reflected in this vote, certainly

deserved the full hearing and careful deliberation of the House.

The next level of decision-making is carried out by the Board of Trustees, a much smaller but still representative group. The board normally meets quarterly, with the agenda commonly occupying five or six hours of careful work. The board also serves as the final avenue of appeal for physicians disagreeing with a decision of the PLICO Board of Directors.

The Executive Committee of the OSMA is composed of the general officers of the association, with the AMA delegates attending as nonvoting guests. The Executive Committee meets prior to each Board of Trustees meeting and frequently has additional meetings as well. Matters such as the recent hiring of Mike Sulzycki as Associate Director/Director of Communications and the final selection of a computer system were decisions handled by this committee.

Finally, many of the day-to-day decisions are necessarily made by the president of the association and its executive director. David Bickham has a maturity of judgment and capability of insight that have been most valuable to me, personally, and to all members of our association. It is hoped that the decisions reached at the various levels of our association will continue to benefit the medical profession and our fellow citizens of Oklahoma.

George H. Kamp, M.D.

Puncture Wounds of the Foot: Their Importance and Potential for Complications

HARRIS D. RILEY, JR, MD

Puncture wounds of the foot, although often regarded as innocuous, not infrequently are complicated by deep infection and osteochondritis, usually due to *Pseudomonas aeruginosa*.

Puncture wounds of the foot are relatively common and are often regarded as innocuous. The majority occur in children, and frequently the family does not seek medical attention for the child. For many of those that are brought to medical attention, the management is inadequate — an incomplete clinical history poorly recorded in the emergency room or office records, a superficial cleansing of the involved foot, the administration of an antibiotic and tetanus prophylaxis, and almost always a poor follow-up. Examination of a series of patients with puncture wounds of the foot shows that the injury may be attended by complications, many of them serious.

A series of puncture wounds in children seen over a four-year-period (January 1, 1970 to December 31, 1973) at the Janeway Child Health

Center in St Johns, Newfoundland, Canada, has been analyzed in detail.¹ There were 887 cases, which constituted about 1.25% of all visits to the emergency room. The majority of children sustained their injury between May and October. The injury was more frequently incurred in July and in boys (69% of patients). The patients ranged in age from 2 to 15 years (mean, 9 years). Puncture by a nail accounted for 869, or 98% of the injuries; 774 patients were seen within the first 24 hours after injury. The treatment given to a child presenting with a puncture wound included cleansing of the foot in a detergent, followed by debridement and probing of the puncture wound. In 26 patients a retained foreign body was removed from the puncture site.

Sixty-five (8.4%) of the 774 patients seen

Harris D. Riley, Jr, MD, was graduated from the Vanderbilt University School of Medicine. He is distinguished professor of pediatrics at the University of Oklahoma Health Sciences Center. Certified by the American Board of Pediatrics, Riley is a member of the Society for Pediatric Research, the American Pediatric Society, and the Infectious Disease Society of America.

within the first 24 hours after the injury presented with cellulitis or returned one to four days later with cellulitis. Among the 113 patients presenting one to seven days after the injury, cellulitis or localized soft tissue infection developed in 64 (57%); four additional patients returned with cellulitis one to four days after the initial treatment.

Of the total 887 patients, 132 (15%) developed cellulitis or soft tissue infection. Specimens from 41 were submitted for microbiologic assessment; 26 had positive cultures, staphylococci being the most common organism followed by various types of streptococci. Of the 132 patients, 124 patients responded to antimicrobial drugs, soaks, elevation, and rest. Nine patients with a positive culture and appropriate antimicrobial therapy failed to demonstrate clinical improvement within 48 to 120 hours. All nine required incision and drainage of an abscess, at which time a foreign body was found in five; after this treatment the infection resolved in all.¹

**. . . 8% to 15%
of the puncture wounds
of the foot
progress to cellulitis or
localized abscess.**

Osteomyelitis developed in one of the small bones of the foot in 16 patients (1.8%) six days to six months after the injury. In 15 of the patients, the mean time interval between the puncture wound and the diagnosis of osteomyelitis was 1.6 weeks; the remaining patient did not present until 16 months after the injury but had experienced intermittent drainage from the wound for 10 months.¹

In 14 of the 16 patients organisms were isolated from surgical specimens. In 13 it was *Pseudomonas* and in one *Klebsiella*.¹

Houston et al² reported that 10% of 2,538 patients with puncture wounds of the foot presented later with established infections. Higham³ has estimated that 8% to 15% of

puncture wounds of the foot progress to cellulitis or localized abscess. Infection of bone and cartilage is the next most common complication. Osteomyelitis of the foot following puncture wounds in children should correctly be regarded as osteochondritis since both cartilage and bone are typically involved.

In 1968 Johanson⁴ first reported *Pseudomonas* osteochondritis complicating foot puncture wounds. He described 11 children with such infections. In 1969 a patient with *Pseudomonas* osteomyelitis of the calcaneus following a puncture wound was reported from Children's Memorial Hospital, University of Oklahoma Health Sciences Center.⁵ Since that time, there have been several additional reports.⁶⁻¹²

One of the larger series of patients with *Pseudomonas* osteochondritis is that reported by Jacobs et al.¹³ They described 13 documented cases seen at Children's Hospital in Seattle from January 1970 through April 1981. Only those patients with roentgenographic and/or surgical documentation of osteochondritis and with cultures that yielded *Pseudomonas aeruginosa* were included. There was a history of a preceding puncture wound in all cases; in 11 the puncture was caused by stepping on a nail. The patients ranged in age from 6 to 16 years, with a mean of 11.2 years. The mean duration of symptoms before admission was 6 days, with a range of 2 to 21 days. Each patient had received oral antibiotic therapy as an out-patient in addition to local therapy for 1 to 21 days before admission to the hospital; none had improved on these modalities.¹³

At the time of admission, 10 of the 13 patients in the series reported by Jacobs et al¹³ had cellulitis at the puncture site; 3 patients had only deep swelling and tenderness. Ten of the patients had infections of a phalanx or a metatarsal; 3 had infection of the calcaneus. Two patients had both metatarsal and metatarsophalangeal joint infection. Bony abnormalities of deep soft tissue swelling were observed on roentgenograms in 12 patients at the time of admission to the hospital. Each patient had bone involvement, with or without joint involvement, noted at the time of surgical debridement.

Pseudomonas aeruginosa alone was isolated from seven patients; it was recovered with one or more organisms from six patients. Cultures from the wound at admission grew *Pseudomonas* in eight patients; in two of these eight

and in the remaining five patients, *Pseudomonas* was isolated at the time of debridement. Therapy in each case consisted of thorough surgical debridement of involved cartilage and bone, followed by appropriate antimicrobial therapy based on susceptibility of the isolate of *Pseudomonas* and other organisms recovered.¹³

From these reports a reasonably uniform clinical picture has emerged. The initial pain of the puncture wounds subsides in 24 to 48 hours, and the signs of osteochondritis appear after an additional 48 to 72 hours. Typically,

**Each patient
had bone involvement
with or without
joint involvement . . .**

there is point tenderness as well as localized swelling, erythema, and pain over the puncture wound entrance. In contrast to acute hemogenous osteomyelitis, there are few constitutional symptoms, with no or only low-grade fever. There is usually no peripheral leukocytosis; the erythrocyte sedimentation rate is increased minimally. Characteristic radiographic changes in bone do not become apparent until a week to ten days after the onset of symptoms. A technetium scan may demonstrate osseous abnormalities at an earlier time. Cultures should be obtained from the bone if possible. Although the offending organism most commonly is *Pseudomonas*, staphylococci and streptococci also have been isolated.¹⁴ Recently, we have observed four patients at Children's Memorial Hospital, University of Oklahoma Health Sciences Center, who had infection of the foot due to *Mycobacterium fortuitum* complex following puncture wounds.

It is to be emphasized that infection may involve joints as well as bones of the foot.

Why *Pseudomonas* is the most common microbiologic cause of osteochondritis following puncture wounds is not clear. The predominance of *Pseudomonas* can be explained, in part, on the basis of tropism of that or-

ganism for cartilage.¹⁴ Involvement in *pseudomonas* osteochondritis of either an epiphyseal growth plate and/or articular cartilage is common and was emphasized by Johanson.⁴ Many other patients with *pseudomonas* osteomyelitis have developed chondritis. *Pseudomonas* is also frequently responsible for invasive bacterial infection of the external ear (perichondritis) and for infections of other cartilaginous structures including sternochondral joints and intervertebral discs.¹²

It has been proposed that initial antibiotic therapy aimed at the usual causative organism is a factor favoring development of *Pseudomonas* infection. Most of the patients have received such therapy for varying periods prior to definitive diagnosis.¹⁰ Whether *Pseudomonas* species can on occasion be part of the normal skin flora of the foot has been speculated. For example, it has been proposed that in the warm, moist atmosphere of the shoe, *Pseudomonas* may be a common skin flora of the foot. A puncture wound then directly inoculates the organism into the bone.⁹ However, at least two surveys have shown that the organism is infrequently found in surveys of the skin of the feet.^{15, 16} *Pseudomonas* is an aquatic organism, and it has been speculated that the organism may originate from the solution in which the injured foot is soaked at some point after the injury.⁹ So far the precise source of the organism has not been conclusively identified.¹⁴ Two major possibilities seem apparent. Either the infection may occur only in those individuals colonized with and thus inoculated with *Pseudomonas* at the time of the penetrating injury, or the organism is introduced into the injured site at a later time, possibly during such procedures as soaking the foot in unsterile water.¹⁵

The treatment of *pseudomonas* osteochondritis should be based on sound principles for the management of infection.^{17, 18} This includes appropriate antimicrobial therapy and surgical treatment. In some cases antibiotic therapy alone is curative, but in most thorough debridement of infected bone is required and should be combined with antimicrobial therapy. The organism can persist in an indolent manner until all infected, necrotic tissue has been removed.³ Selection of antimicrobial therapy should be guided by *in vitro* susceptibilities against the offending organism.¹⁷ The infecting strain of *Pseudomonas* may be resistant to most antibacterials, and drug penetration into infected sites may be poor.³ Usu-

ally, an aminoglycoside (such as gentamicin, tobramycin, or amikacin) should be used in combination with a penicillin with activity against *Pseudomonas* (such as carbenicillin, ticarcillin, piperacillin, and mezlocillin). It is generally recommended that hematogenous osteomyelitis be treated within four to six weeks.¹⁴

More recent studies¹³ suggest that two weeks or less of appropriate antibiotic therapy, particularly if combined with curettage, is adequate for *pseudomonas* osteochondritis following puncture wounds of the foot; the validity of this recommendation must await further experience. Surgical debridement is an important aspect of the treatment of *pseudomonas* osteochondritis of the foot following a puncture wound, with the majority of cases responding to debridement and appropriate antibiotics.¹⁴

Important long-term complications including narrowing or rigidity of the involved joint and premature closure of the growth plate have been observed. It is not known whether such findings can be avoided by earlier diagnosis and treatment.³

It is clear from these studies that puncture wounds of the foot have the potential for serious complications.

Because its clinical picture differs markedly from that of hematogenous osteomyelitis, which is most frequently seen in children, many physicians may not be alert to the oc-

currence of *pseudomonas* osteochondritis, with a resulting delay in diagnosis and treatment. □

Appreciation is expressed to Brenda L. Mings for preparation of the manuscript.

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Children's Memorial Hospital, PO Box 26901, Oklahoma City, Oklahoma 73190.

Paths to Progress I: Thrombosis and Coagulation Laboratory

PHILIP C. COMP, MD, PhD
RONALD L. GILLUM, MD

The laboratories of the Oklahoma Teaching Hospitals (OTH) have made dramatic advancements in recent years. Consultative services in selected areas are now available to the physicians of Oklahoma.

The Thrombosis and Coagulation Section of the Clinical Laboratories of the Oklahoma Teaching Hospitals (OTH) performs a wide variety of tests for the diagnosis of thrombotic and hemorrhagic diseases. The facility was designated the American Heart Association Regional Reference Laboratory in 1979, providing diagnostic service not only for the Health Sciences Center campus, but for referrals from all of Oklahoma and adjoining states.

Diagnostic capability for a variety of rare and not-so-rare bleeding and clotting disorders is available. Over 150 patients with various types of hemophilia are followed regularly at the laboratory, which becomes critical when these patients require surgery. The laboratory

works closely with the physicians managing the patients' care. Even the extraction of wisdom teeth from adult hemophiliacs requires careful coordination between the surgeons and the laboratory to ensure the patient does not have serious bleeding during or after surgery. The clotting tests used to manage these patients, such as the factor VIII level determination, are subject to intense quality control measures. Moreover, such testing may be required at any hour of the day or night, and every effort is made to assure the availability of accurate results at any time.

Patients with a diagnosis of esoteric clotting problems also are referred to the laboratory. In some of these interesting patients are found examples of nonspecific inhibitors of coagulation. Often discovered on the basis of a prolonged partial thromboplastin time in blood samples drawn preoperatively, this particular type of patient, paradoxically, does not experience excessive bleeding at the time of surgery. In fact, some of the patients actually develop venous thromboses. Specialized diagnostic testing in the laboratory provides important data about these patients.

(continued on next page)

The diagnosis of thrombotic disease is based on a variety of tests; the ^{125}I -fibrinogen scan is among the most useful. The patient with suspected venous leg clots is injected with ^{125}I -labeled fibrinogen and, if clots are present, radiolabeled fibrinogen accumulates at their site, making them easily detected. The test is particularly useful in patients who have had repeated episodes of leg clots and in whom the venogram is not always diagnostic. The fibrinogen scan often permits the distinction between postphlebotic leg pain and active thrombosis.

The diagnosis of platelet disorders and clotting problems such as von Willebrand's Disease is a common problem. Often studies of a number of family members are required to make a firm diagnosis of the problem. A close relationship with the hospital's electron microscopy laboratory also aids in diagnosing many of these problems. Platelet aggregation studies are available, as well as advanced procedures for detection of platelet antibodies, in the tissue typing section.

The laboratory makes every attempt to bring new diagnostic tests described in the medical literature into laboratory use. The antithrombotic protein, protein C, was reported (*Journal of Clinical Investigation*, November 1981) to be

low in certain patients with recurrent thrombosis. Working with coagulation researchers on campus, the laboratory now has an assay for protein C ready for clinical use to supplement assays for all the common coagulation factors, antithrombin III, heparin, and plasminogen. Physician consultation service is also available.

The laboratory was named for David Warner, long-term supervisor, who succumbed to hemophilia against which he struggled for so many years. □

State of Oklahoma Teaching Hospitals Clinical Labs, PO Box 26307, EB402, Oklahoma City, OK 73126.

Philip C. Comp, MD, is associate professor of medicine, University of Oklahoma Health Sciences Center, Oklahoma City. A 1971 graduate of the University of Washington School of Medicine, his specialty is internal medicine/coagulation. Comp is a member of the Council on Thrombosis, American Society of Hematology.

Ronald L. Gillum is associate professor of pathology, University of Oklahoma Health Sciences Center, College of Medicine, Oklahoma City. He was graduated from the University of Illinois College of Medicine in 1964 and is a member of the College of American Pathologists, American Society of Clinical Pathologists, Academy of Clinical Laboratory Physicians and Scientists, American Association of Clinical Chemistry, and the Oklahoma State Association of Pathologists.

Geographic Distribution of Physicians in Oklahoma

C. S. LEWIS, JR, MD
HUGH D. TIDLER
MARY PISCITELLO, MS

**Information presented from the
Physician Manpower Training
Commission data base and other sources
may help answer the question of future
needs for medical manpower in
Oklahoma.**

For more than twenty years, concern about the maldistribution of physicians has been expressed by physicians, health planners, legislators, community representatives, and others. Some of the factors that influence the practice location of physicians have been identified. Many factors have remained mysterious and difficult to ascertain.

In a previous paper,¹ the authors indicated the improvement in the total number of physicians in Oklahoma as determined from figures that are now available through the Physician Manpower Training Commission Data Base (PMTC). This paper presents correlations developed from this information in an attempt to identify some of the factors related to choice of practice location by physicians. We will describe the current status of physician distribu-

tion in Oklahoma as compared to published statistics from other states and provide information for others who will be studying this material for some time in the future.

This type of information could be particularly helpful to health planning efforts related to physician production and distribution.

This new data base, on computer, offers health planners, educators, and state policymakers a new dimension with respect to physician distribution and factors affecting this distribution. Information relating to physician origin, such as birthplace, high school, premedical school, medical school, and postgraduate education can now be plotted against the practice locations of physicians in Oklahoma. Inclusion of Oklahoma census figures allows for population base studies. It is now possible to statistically and graphically analyze physician distribution in ways that were heretofore impossible.

Methodology

The Physician Manpower Training Commission Data Base contains every medical and osteopathic physician currently licensed to practice in Oklahoma, including residents in training as of August 1982. In addition, it contains

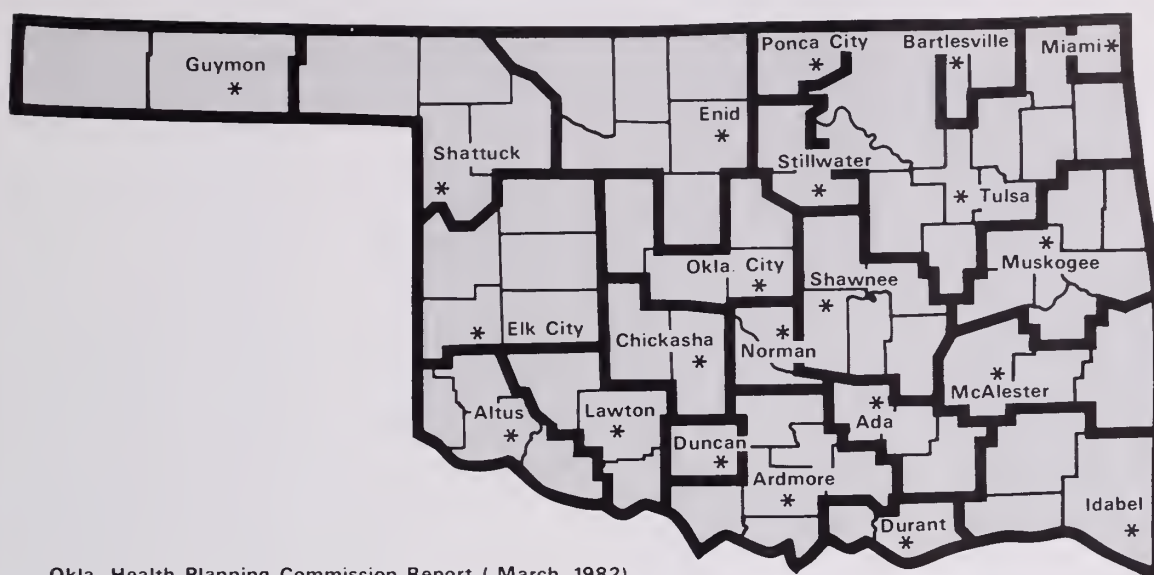
OKLAHOMA PHYSICIAN CENSUS BY COUNTY
(EXCLUDES RETIRED)

County	POPULATION		M D S		D O S		Physicians per 100,000 Pop	
	1970*	1982**	'73*	'82***	'73*	'82***	1973*	1982
Oklahoma	527,717	585,600	927	1643	57	88	180.3	295.6
Canadian	32,245	63,200	18	27	3	4	52.8	49.1
Blaine	11,794	16,300	7	9	1	1	65.6	61.3
Logan	19,645	28,500	9	16	1	1	44.1	59.6
TOTAL	(591,401)	(693,600)	(961)	(1695)	(62)	(94)	(173.0)	(258.0)
Tulsa	399,982	490,200	505	990	184	287	168.0	260.5
Craig	14,722	15,400	16	14	3	1	128.4	97.4
Creek	45,532	63,700	15	25	8	7	49.1	50.2
Delaware	17,767	25,400	5	9	—	2	26.2	43.3
Mayes	23,302	34,400	6	6	8	12	55.6	52.3
Okmulgee	35,358	40,300	16	24	6	7	61.1	76.9
Osage	29,750	40,200	9	10	2	6	37.8	39.8
Pawnee	11,338	15,700	3	5	5	8	66.1	82.8
Rogers	28,425	50,200	6	24	7	13	42.5	73.7
Wagoner	22,163	46,800	2	6	6	10	31.7	34.2
TOTAL	(628,339)	(822,300)	(583)	(1113)	(229)	(353)	(129.2)	(178.3)
Garfield	56,343	65,600	54	93	17	35	122.4	195.1
Alfalfa	7,224	7,400	2	3	1	2	41.7	67.6
Grant	7,117	6,900	1	1	1	3	29.0	58.0
Kingfisher	12,857	16,500	4	9	4	3	64.0	72.7
Major	7,529	9,400	1	2	1	4	26.7	63.8
Woods	11,920	11,000	6	8	1	2	64.8	90.9
TOTAL	(102,990)	(116,800)	(68)	(116)	(25)	(49)	(90.4)	(141.3)
Muskogee	59,542	66,900	59	100	2	3	100.7	154.0
Adair	15,141	17,800	4	5	1	2	31.1	39.3
Cherokee	23,174	30,800	5	17	3	13	33.3	97.4
Haskell	9,578	11,500	2	2	4	5	62.5	60.9
McIntosh	12,472	16,800	5	8	4	4	70.9	71.4
Sequoyah	23,370	32,000	4	4	5	7	37.0	34.4
TOTAL	(143,277)	(175,800)	(79)	(136)	(19)	(34)	(68.4)	(96.7)
Comanche	108,144	112,800	54	99	1	6	52.6	93.1
Cotton	6,832	6,600	1	1	2	2	45.5	45.5
Kiowa	12,532	12,200	6	10	1	—	59.3	82.0
TOTAL	(127,508)	(131,600)	(61)	(110)	(4)	(8)	(51.0)	(89.7)
Cleveland	81,839	147,200	86	160	4	12	92.9	116.8
McClain	14,157	21,500	5	8	1	1	34.3	41.9
TOTAL	(95,996)	(168,700)	(91)	(168)	(5)	(13)	(100.1)	(107.3)
Carter	37,349	45,000	39	48	7	5	118.3	117.8
Garvin	24,874	31,400	11	11	3	5	53.0	51.0
Jefferson	7,125	8,100	5	3	—	3	64.1	74.1
Johnston	7,870	10,500	2	4	—	1	24.7	47.6
Love	5,637	7,700	1	1	3	2	64.5	39.0
Murray	10,669	13,600	3	4	2	3	46.7	51.5
TOTAL	(93,524)	(116,300)	(61)	(71)	(15)	(19)	(81.3)	(77.4)
Kay	48,791	51,400	43	64	5	3	98.2	130.4
TOTAL	(48,791)	(51,400)	(43)	(64)	(5)	(3)	(98.2)	(130.4)
Pottawatomie	43,134	60,900	32	58	1	3	68.8	100.2
Hughes	13,228	15,900	9	9	1	3	70.9	75.5
Lincoln	19,482	28,200	8	8	3	3	53.1	39.0
Okfuskee	10,683	10,200	3	5	1	—	37.4	49.0
Seminole	25,144	29,200	9	12	1	2	36.2	47.9
TOTAL	(111,671)	(144,400)	(61)	(92)	(7)	(11)	(60.9)	(71.3)
Washington	42,302	52,600	45	71	3	—	116.5	135.0
Nowata	9,773	11,500	2	1	3	3	49.0	34.8
TOTAL	(52,075)	(64,100)	(47)	(72)	(6)	(3)	(101.7)	(117.0)
Payne	50,654	65,100	39	61	2	3	75.2	98.3
Noble	10,043	12,000	4	4	1	1	51.0	41.7
TOTAL	(60,697)	(77,100)	(43)	(65)	(3)	(4)	(75.8)	(89.5)
Pontotoc	27,867	33,700	34	49	—	2	113.3	151.3
Atoka	10,972	12,000	2	2	3	2	44.6	33.3
Coal	5,525	5,200	2	2	—	1	33.9	57.7
TOTAL	(44,364)	(50,900)	(38)	(53)	(3)	(5)	(92.3)	(113.9)
Pittsburg	37,521	40,800	29	39	2	4	84.9	105.4
Latimer	8,601	10,000	1	3	8	2	44.0	50.0
LeFlore	32,167	41,400	14	17	3	10	65.1	65.2
TOTAL	(78,259)	(92,200)	(44)	(59)	(13)	(16)	(72.8)	(81.3)
Grady	29,354	44,300	21	38	4	2	76.5	90.3
Caddo	28,931	32,200	10	9	4	3	45.6	37.3
TOTAL	(58,285)	(76,500)	(31)	(47)	(8)	(5)	(66.9)	(68.0)
Stephens	35,902	49,100	20	36	4	5	63.7	83.5
TOTAL	(35,902)	(49,100)	(20)	(36)	(4)	(5)	(63.7)	(83.5)
Ottawa	29,800	32,700	13	19	7	9	66.9	85.6
TOTAL	(29,800)	(32,700)	(13)	(19)	(7)	(9)	(66.9)	(85.6)
Custer	22,665	32,100	18	23	1	5	82.6	87.2
Beckham	15,754	25,000	14	24	—	3	91.5	108.00
Dewey	5,656	6,700	1	2	—	1	53.6	44.8
Roger Mills	4,452	7,800	1	2	—	—	23.8	25.6
Washita	12,141	18,400	4	2	1	4	42.0	32.6
TOTAL	(60,688)	(90,000)	(38)	(53)	(4)	(13)	(69.2)	(73.3)
Jackson	30,902	28,300	15	27	1	3	48.9	106.0
Greer	7,979	6,800	6	6	—	—	75.9	88.2
Harmon	5,136	5,000	2	2	—	2	43.5	80.0
Tillman	12,901	12,000	3	4	1	3	32.0	58.3
TOTAL	(56,918)	(52,100)	(26)	(39)	(2)	(8)	(49.2)	(90.2)
Bryan	25,552	31,100	10	19	—	4	38.2	74.0
Marshall	7,682	11,900	2	3	3	5	60.2	67.2
TOTAL	(33,234)	(43,000)	(12)	(22)	(3)	(9)	(45.2)	(72.1)
McCurtain	28,642	33,500	5	10	7	26.6	50.7	50.7
Choctaw	15,154	17,000	3	5	1	6	23.8	64.7
Pushmataha	9,385	12,000	3	5	2	2	52.1	58.3
TOTAL	(53,168)	(62,500)	(11)	(20)	(7)	(15)	(33.8)	(56.0)
Ellis	5,129	7,300	7	8	—	—	140.0	109.6
Beaver	6,282	7,600	3	2	—	1	49.2	26.3
Harper	5,151	5,000	3	3	—	—	62.5	80.0
Woodward	15,537	25,000	12	13	2	3	92.7	64.0
TOTAL	(32,099)	(44,900)	(25)	(26)	(2)	(4)	(84.1)	(66.8)
Texas	16,352	17,700	7	7	3	6	58.8	73.4
Cimarron	4,145	3,300	2	2	—	—	50.0	60.6
TOTAL	(20,497)	(21,000)	(9)	(9)	(3)	(6)	(58.5)	(71.4)
State	2,559,463	3,177,000	2,365	4,089	436	686	105.2	150.3

* Okla. Health Planning Comm. 1980 State Health Plan
** Okla. Employment Security Comm. July 1, 1982 Estimates
*** PMTC Physician Data Bank

Figure 1. — Physician/population ratio in 1973 and 1982 by county and by hospital trade area.

HOSPITAL TRADE AREAS (22)



Oklahoma Health Planning Commission Report (March, 1982)

Figure 2. — Hospital trade areas.

Oklahoma 1970 and 1980 census data, physician migration and location comparisons, birthplace, high school, premedical school, medical school, internship and residency training, age, type of practice, and original and current practice locations.

Sources from which physician data were collected include the Oklahoma State Medical Association (OSMA), the State Board of Medical Examiners, the Oklahoma Osteopathic Association (OOA), and the State Osteopathic Examiners Board. Other than selected data elements from OSMA's computerized membership file, the facts were hand collected from physician license documents. The practice location is often not the mailing address from which the physician has renewed a medical license or membership with the medical or osteopathic association. The PMTC data base contains the actual practice location. To ensure statistical use only, physician names were removed from the data base.

In 1983, construction of the physician data base was completed and it became available for processing. Computer programs were written to produce tabulations relating each physician characteristic in the data base to both the original and current practice location by community size. This process should be expanded where appropriate and the data base updated annually.

Projected increases in Oklahoma's popula-

tion in the 1980s have ranged from 261,000² to 551,000.³ It is estimated that the state population has already increased by 152,000 since 1980.⁴ If that trend were to continue, the population growth would be 760,000 from 1980 to 1990, assuming a 152,000 increase every two years.

Oklahoma's population increase was 95,000 in the 1950s, 231,000 in the 1960s, and 466,000 in the 1970s.⁵ When the 1980 census figures were published they showed that earlier official 1980 population projections had been short by roughly 150,000 or 32%.⁵ Such variance in population estimates for 1980 has a dramatic effect on our projected physician-to-population ratio. Given these various projections, Oklahoma's ratio could range from 172 physicians/100,000 population to 198 physicians/100,000 population by 1990. In a previous article, we used a midline population estimate and calculated a projection of 182 physicians/100,000 population figure for 1990. The national average is projected to be 220 physicians/100,000 population in 1990.⁶

Results

The physician/population ratio in Oklahoma has increased from 105/100,000 in 1973 to 150/100,000 in 1982. These figures are tabulated by county and by hospital trade area in Figure 1.

(continued on next page)

Hospital trade areas⁷ are defined as county groupings that reflect actual travel patterns by Oklahomans for secondary and tertiary hospital care, excluding federal and nonacute care specialty institutions. To acquire optimum county groups, patient origin data was integrated with threshold values of import/export, self-sufficiency, admissions, beds, service scope, and physician staff. For each of the 22 trade areas, a centroid, or principal city, was chosen as the focal point of hospital services for that trade area. (See Figure 2.)

1973 was chosen as a comparative base because it is the only available earlier listing for both MD's and DO's that included residents in training and excluded retirees.⁷ 1970 census data was used with the 1973 physician count for the ratios because 1973 population estimates are not available. Fifty-three counties showed an increase in MD's and 50 counties showed an increase in DO's over this period of

time, whereas six counties registered a decrease in MD's and 11 counties registered a decrease in DO's (Figure 1). In 1982, there were MD's in all 77 counties and DO's in 69 counties.

The physician/population ratio increased in 20 of the 22 trade areas. In the hospital trade area surrounding Ardmore (seven) and that surrounding Shattuck (twenty-one) the physician/population ratio decreased from 1973 to 1982.

Oklahoma communities were analyzed by size and are shown on several of the charts. There are 598 communities in Oklahoma. Of these, 479 are of less than 2,500 population, 52 have populations from 2,500 to 5,000, 33 have populations from 5,000 to 10,000, 15 have populations from 10,000 to 20,000, 7 have populations from 20,000 to 30,000, 7 have populations from 30,000 to 50,000, 3 have populations from 50,000 to 100,000, and 2 have populations of over 100,000.

Figure 3 shows the number of MD's in towns of various populations, comparing years 1972, 1977, and 1982. There was a decrease in the

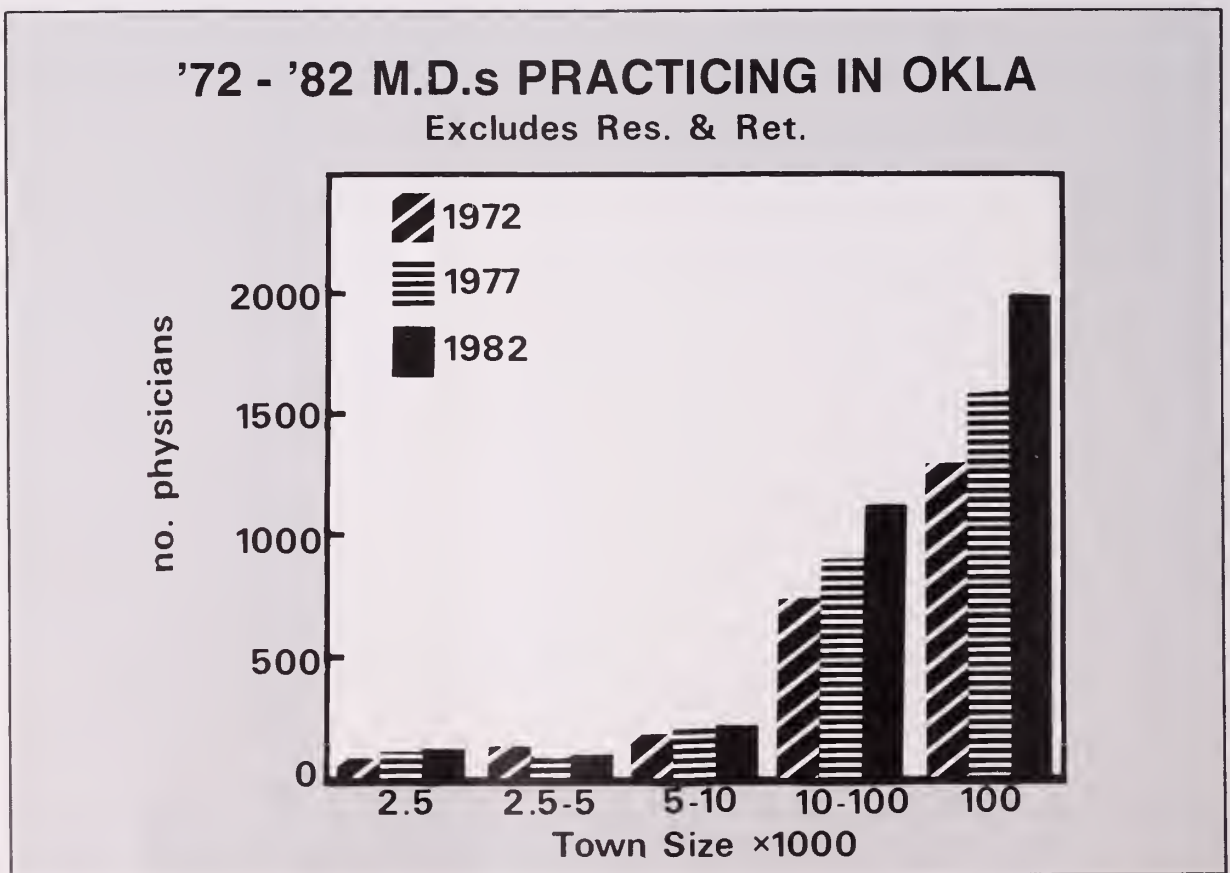


Figure 3. — Total number of MD physicians by town size, comparing 1972, 1977, and 1982.

D.O.s & M.D.s PRACTICING IN OKLA

Excludes Res. & Int.

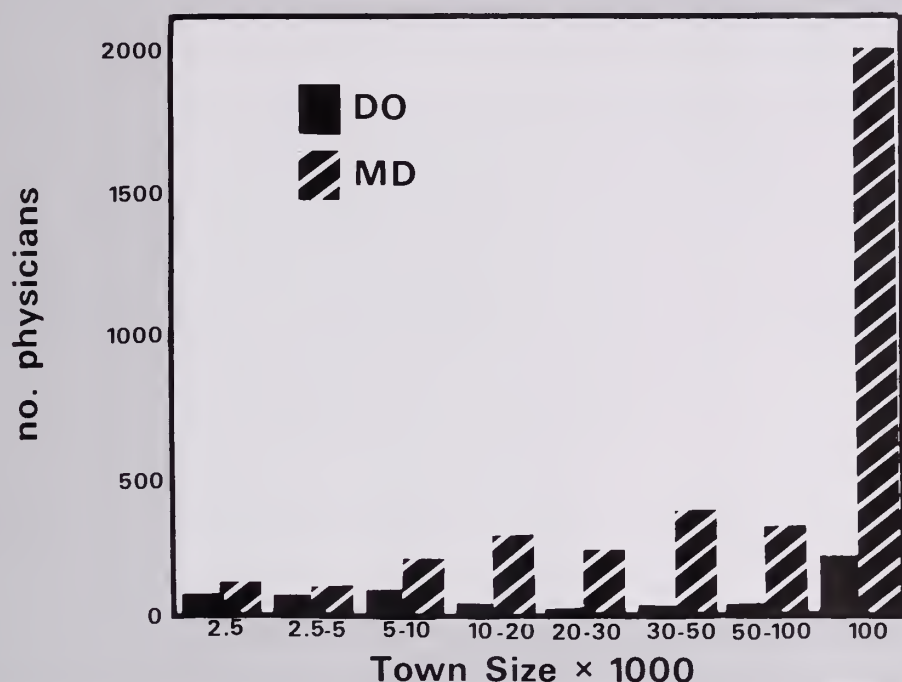


Figure 4. — Total number of MD and DO physicians practicing in 1982 shown by town size of practice location (excluding residents in training and retired physicians).

number of physicians in towns 2,500 to 5,000 in 1977 compared to 1972, and an increase in 1982. All other towns when grouped by size show a significant increase in physician population at each five-year interval.

Figure 4 indicates the total number of MD physicians and DO physicians practicing in Oklahoma in 1982 by town size of current practice location.

Physician services by specialty were computed in relation to percent of towns grouped by size that had a particular specialty service available (Figure 5). These data are then compared with data that were computed the same way and published by Dr Newhouse et al of the Rand Corporation in May of 1982 for 23 states, including Oklahoma.⁸ Newhouse's conclusion was that the data strongly suggest that competitive forces play a major role in determining where physicians choose to practice.

The data indicate that physicians in larger specialties diffuse more widely, and towns without physicians' services tend to acquire physicians of a given type at a higher frequency rate than do towns that are already served. The 1982 figures in Oklahoma are compared with

the 1979 figures published by the Rand Corporation. The Oklahoma data also include the numbers and percentages for towns under 2,500 in population. The implications of this study will be discussed later in the paper.

The high school location from which each physician was graduated was studied with interest. Sixty-three percent of the physicians practicing in towns under 10,000 population were graduated from high schools located in towns under 10,000. Figure 6 indicates that 2,007 physicians now practicing in Oklahoma were graduated from high schools in Oklahoma, and compares the size of community of current practice with the size of community of high school location. It shows that 47% of the 2,007 Oklahoma high school graduates practice in towns larger than 100,000 in Oklahoma, 9% practice in towns 50,000 to 100,000, 24% in towns 10,000 to 50,000, and 20% in towns under 10,000 population.

In Figure 7, physicians who were graduated from high schools in Oklahoma are compared to physicians who were graduated from high schools outside the state by current practice location. This figure indicates that 60% of the

PERCENTAGE OF COMMUNITIES WITH NONFEDERAL PHYSICIAN SPECIALTY SERVICES

Specialty	No. of Full-Time Equivalent Physicians in 23 sample states	Population in Thousands							
		< 2.5	2.5-5	5-10	10-20	20-30	30-50	50-200	>200
General and Family Practice									
1979 National	11,869		86	96	99	100	100	100	100
1982 Oklahoma		23	89	72	43	38	28	28	17
Internal Medicine									
1979 National	9,467		23	52	84	97	100	100	100
1982 Oklahoma		6	13	32	71	71	100	100	100
General Surgery									
1979 National	6,071		44	77	96	100	100	100	100
1982 Oklahoma		6	7	52	86	86	100	100	100
Obstetrics Gynecology									
1979 National	3,978		15	35	77	97	100	100	100
1982 Oklahoma		3	2	10	57	86	100	100	100
Psychiatry									
1979 National	3,203		9	17	40	59	96	100	100
1982 Oklahoma		2	7	7	21	43	71	100	100
Pediatrics									
1979 National	3,429		12	25	68	92	100	100	100
1982 Oklahoma		5	4	19	57	71	100	100	100
Radiology									
1979 National	3,042		9	30	73	97	100	100	100
1982 Oklahoma		0	4	19	64	71	71	100	100
Anesthesiology									
1979 National	2,303		11	19	40	83	100	100	100
1982 Oklahoma		3	0	10	36	57	86	100	100
Orthopedic Surgery									
1979 National	2,409		7	17	47	88	100	100	100
1982 Oklahoma		1	0	13	64	71	71	100	100
Ophthalmology									
1979 National	2,147		4	14	62	89	100	100	100
1982 Oklahoma		0	0	3	43	71	86	100	100
Pathology									
1979 National	1,804		4	15	50	85	95	100	100
1982 Oklahoma		0	0	3	29	71	71	100	100
Urology									
1979 National	1,340		2	10	47	89	100	100	100
1982 Oklahoma		1	0	3	43	86	57	100	100
Otolaryngology									
1979 National	1,127		2	6	29	79	98	98	100
1982 Oklahoma		0	0	3	29	43	71	100	100
Dermatology									
1979 National	795		1	3	15	59	96	98	100
1982 Oklahoma		0	0	3	14	29	71	100	100
Neurology									
1979 National	724		0	4	13	24	70	98	100
1982 Oklahoma		0	0	0	0	0	14	100	100
Neurosurgery									
1979 National	523		0	1	2	18	56	88	100
1982 Oklahoma		0	0	0	0	0	14	67	100
Plastic Surgery									
1979 National	430		1	1	8	20	46	83	100
1982 Oklahoma		0	0	0	0	0	14	0	100
Any physician									
1979 National	58,911		92	98	100	100	100	100	100
1982 Oklahoma		20	87	94	93	100	100	100	100
Communities in each category									
1979 National			644	379	206	66	57	40	34
1982 Oklahoma		479	52	33	15	7	7	3	2

Figure 5. — Percentage of communities with non-federal physician specialty services in Oklahoma in 1982 compared to 23 sample states in 1979.⁸ Data are from the following states: Alabama, Arkansas, Colorado, Georgia, Idaho, Iowa, Kansas, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, North Dakota, Oklahoma, South Dakota, Tennessee, Utah, Vermont, Wisconsin, and Wyoming.

OKLAHOMA HIGH SCHOOL GRADUATES VS CURRENT PRACTICE LOCATION

Community Size of High School	population × 1000				Totals
	< 10	10-50	50-100	> 100	
<10	63%	40%	42%	29%	792
10-50	18%	37%	28%	23%	520
50-100	2%	2%	19%	3%	87
> 100	17%	21%	11%	45%	608
Totals	368	480	194	965	2007

Figure 6. — Vertical columns indicate % of physicians by town size of practice who graduated from Oklahoma high schools located in towns of indicated size. Totals refer to number of physicians.

doctors practicing in towns of under 10,000 were graduated from high schools in Oklahoma, 32% were graduated from high schools in other states, and 8% were graduated from high schools outside the United States. In towns over 100,000 population, 45% of the physicians were graduated from high schools in Oklahoma, 46% were graduated from high schools out of state, and 9% were graduated from high schools outside of the US.

Figure 8 represents the relationship of physician birthplace to town size of current practice location. In towns under 10,000, 47% of the doctors were born in Oklahoma, 44% in other states, and 9% in foreign countries. In towns over 100,000, 35% of doctors were born in Oklahoma, 55% in other states, and 10% in foreign countries.

Figure 9 compares location of medical school from which physicians were graduated with their practice location. The table shows that 49% of the doctors practicing in towns under 10,000 population were graduated from schools in Oklahoma, 42% from schools out of state, and 9% from foreign medical schools. In towns over 100,000, 39% of the physicians had been graduated from medical schools in Oklahoma, 51% from schools out of state, and 10% from foreign medical schools.

Figure 10 compares specialty board certification status of physicians with current practice location. Seventy-eight percent of the physicians in towns under 10,000 are not board certified, whereas in towns over 100,000, 49% are board certified and 51% are not.

The physician practice location by town size

compared to physician age is shown in Figures 11 and 12. As indicated by the percentages, and also by the average age per town size, there appears to be a relatively even distribution of physicians in Oklahoma in all town sizes by age.

In Figure 13, distribution of Physician Manpower Training Commission scholarship recipients is charted by town size. The total of 67 recipients represents those physicians who have finished medical school, completed their postgraduate training, and returned to practice.

Discussion

Physician population data across the state indicate that although there has been a significant increase in the number of doctors in Oklahoma in the past decade, this increase has not been uniform in all areas of the state. Two of the 22 hospital trade areas show a decrease in number of physicians per 100,000 population, although there has been an increase in total numbers of physicians in each area.

Overall, there has been a significant increase in the number of physicians practicing in smaller communities in the state.

In comparing the percent of towns in Oklahoma with specialty medical services to similar sized towns in 23 states including Oklahoma, it appears that the diffusion of primary care physicians and specialists into smaller communities in Oklahoma has been less than the average of the 23 states. Dr Newhouse et al,⁸ in analyzing the data for the 23 states, be-

lieve that, according to their theory, it is not the overall growth of physician supply, but rather the growth of each individual specialty that determines the pattern of geographic distribution. They conclude that the failure of the physician/population ratio to rise in rural areas in the 1960s and 1970s is consistent with and related to death and retirement in the ranks of general practitioners. As a result, small towns are disproportionately affected. Newhouse et al found that by 1979, however, with the increase in the number of physicians, especially those in primary care specialties, 92% of towns 2,500 or larger had physicians. These data seem to indicate that the increased number of primary care physicians available in Oklahoma is one of the main reasons for diffusion of physicians into smaller towns.

Another factor that seems to correlate with the tendency to practice in a small town in Oklahoma is graduation from a high school in a small Oklahoma town or, secondarily, from high school in any size town in Oklahoma rather than from an out-of-state school. This applies to birthplace also; there is a greater tendency for physicians born in Oklahoma to practice in small towns, and for those who graduate from medical school in Oklahoma to practice in small towns.

Board certification appears to be correlated more with medium and larger sized towns; however, 22% of the physicians in towns under 10,000 are board certified, and the Rand study

indicates that, with the diffusion of primary care physicians, this figure will probably increase over the next decade.

Physician age does not seem to correlate with the size of the town where the current practice is located; the age distribution is relatively equal across all town size groupings.

Physician Manpower Training Commission Scholarship recipients have, by virtue of their contracts, settled in towns under 10,000 in size, and it is interesting that 24 of 67 settled in towns under 2,500 in size.

We believe that much more information can be derived from future study of this material and, particularly, in correlating this material with data on hospital location and available services. There are relatively few tertiary care hospitals in the state to deal with complicated medical and surgical problems. There is an increased number of physicians in areas of tertiary care centers and teaching hospitals, as one might expect. The relationship of location of facilities and hospitals, as shown in some detail in the hospital trade area studies, appears to be an important factor in physician location. Most physicians want hospital services available within a reasonable distance of their practice location.

More complicated travel studies may indicate that regionalized physician offices could serve a very useful purpose. The question of regionalization of physician offices should be considered in the future.

In 1978 it was found that less than 1% of the population of Oklahoma lives more than 15 miles from a primary care physician.⁹

(continued on page 19)

MD & DO PHYSICIAN ORIGIN TABLE VS CURRENT LOCATION PRACTICE					
High School Location	population × 1000				Totals
	< 10	10-50	50-100	> 100	
Oklahoma	60%	51%	59%	45%	2064
Out of State (USA)	32%	39%	31%	46%	1708
Foreign	8%	10%	10%	9%	371
Totals	641	956	339	2207	4143

Figure 7. — Vertical columns indicate % of physicians by town size of practice. Totals refer to number of physicians.

**MD & DO
PHYSICIAN ORIGIN VS CURRENT PRACTICE LOCATION**

Birth Location	population × 1000				Totals
	< 10	10-50	50-100	> 100	
Oklahoma	47%	43%	45%	35%	1656
Out of State (USA)	44%	46%	44%	55%	2108
Foreign Country	9%	11%	11%	10%	433
Totals	652	964	346	2235	4197

Figure 8. — Vertical columns indicated % of physicians by town size of practice. Totals refer to number of physicians.

MED SCHOOL LOCATION VS CURRENT PRACTICE LOCATION

	population × 1000				Totals
	< 10	10-50	50-100	> 100	
Oklahoma	49%	46%	54%	39%	1796
Out of State (USA)	42%	45%	36%	51%	1928
Foreign country	9%	9%	10%	10%	390
Totals	650	957	340	2167	4114

Figure 9. — Vertical columns indicate % of physicians by town size of practice. Totals refer to number of physicians.

**MD & DO
PHYSICIAN BOARD CERTIFIED VS CURRENT PRACTICE LOCATION**

	population × 1000				Totals
	< 10	10-50	50-100	> 100	
Certified	22%	40%	45%	49%	1788
Non-certified	78%	60%	55%	51%	2434
Totals	662	972	346	2242	4222

Figure 10. — Vertical columns indicate % of physicians by town size of practice. Totals refer to number of physicians.

MDs ONLY									
PHYSICIAN AGE VS. COMMUNITY SIZE									
population × 1000									
current practice location									
physician age	< 2.5	2.5-5	5-10	10-20	20-30	30-50	50-100	> 100	Totals
< 40	32%	20%	35%	32%	33%	35%	33%	32%	1170
40-49	22	23	15	33	26	26	27	29	985
50-59	19	25	19	15	18	20	19	20	710
> 59	27	32	32	20	23	19	21	19	749
TOTAL NO.	106	108	197	276	231	377	311	2008	3614
PHYSICANS									
AVERAGE AGE	49	52	51	48	48	47	48	47	

Figure 11. — Vertical columns indicate % of physicians by town size of practice. Totals refer to number of physicians.

DO'S ONLY									
PHYSICIAN AGE VS. COMMUNITY SIZE									
population × 1000									
physician age	< 2.5	2.5-5	5-10	10-20	20-30	30-50	50-100	> 100	Totals
< 40	37%	50%	59%	49%	17%	53%	52%	37%	248
40-49	15	29	17	17	42	17	18	30	132
50-59	16	6	7	11	8	20	9	16	71
> 59	33	15	17	23	33	10	21	17	111
TOTAL NO.	83	66	95	35	12	30	33	208	562
PHYSICANS									
AVERAGE AGE	49	43	42	45	53	42	45	46	

Figure 12. — Vertical columns indicate % of physicians by town size of practice. Totals refer to number of physicians.

PMTc Scholarship Recipients Currently in Practice in Oklahoma				
Current Practice Location				
Community Size in Thousands				
	< 2.5	2.5-5	5-10	Total
M.D.	12	8	10	30
D.O.	12	10	15	37
Total	24	18	25	67

Figure 13. — Number of physicians shown by town size of practice.

The ideal ratio of physicians to population has been discussed elsewhere, and it is apparent that the projected ratio of 182/100,000 for Oklahoma in 1990 is probably somewhat less than the ideal projected by the Graduate Medical Education National Advisory Committee (GMENAC)⁶ and other studies.

In a survey conducted by the American Medical Association (AMA) in 1982,¹⁰ 46% of the public in Oklahoma expressed a feeling that there are not enough doctors, 5% felt that there are too many, 45% felt the number of doctors is about right, and 4% were not sure.

In another survey conducted by the Oklahoma Physician Manpower Training Commission,¹¹ the following information was determined: Over the last several years, 183 communities have asked the PMTC for assistance in placing a physician in their community, and 18 remain without a doctor in 1983. Of the 183 communities, 129 are presently requesting a placement of 1 to 7 additional doctors. A total of 274 more physicians has been requested.

Hemenway¹² points out that in the real world the prime virtue of the objective of equalizing physician to population ratios seems to be that the data are easily collected. The selection of the criteria depends on one's values. There is no scientifically correct choice. Hemenway argues for the maximization of health care delivery.

Fruen and Cantwell¹³ state that no definitive criteria exist on what constitutes an adequate supply of physicians for an area. The physician supply in various areas should be continuously monitored so that programs to encourage redistribution can be adjusted to shifting needs.

Summary

Oklahoma has enjoyed an increased number of physicians over the last ten years, and factors relating to the distribution of these physicians have been studied and presented. It appears that the criteria used for scholarship recipient determinations and for increasing the size of medical school classes and residency training positions in Oklahoma have been sound. The emphasis on primary care physician training, increased number of Oklahomans in medical school, and increased number of medical students from small towns in Oklahoma appear to have been favorable factors in increasing the

diffusion of physicians into smaller communities. It is expected that as the number of primary care physicians in Oklahoma increases, the diffusion into smaller communities will likewise increase. It is our conclusion that the current distribution of training programs in relation to the medical disciplines and, particularly, in relation to primary and non-primary care appears to be on target and should be continued. □

We gratefully acknowledge the excellent work of the Physician Manpower Training Commission. We thank Mr Rick Ernest of the Oklahoma State Medical Association, Mr Bob Jones of the Oklahoma Osteopathic Association, Ms Betty Rogers of the State Board of Medical Examiners, and the Oklahoma Foundation for Peer Review for providing data and computer resources. We are indebted to Dr Joseph Newhouse of the Rand Corporation for assistance in data preparation.

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C.S. Lewis, Jr, MD, 1705 East 19th Street, Tulsa, Oklahoma 74104.

Dr Lewis is a practicing internist in Tulsa, Oklahoma. He is a past president of the Oklahoma State Medical Association, a member of the Oklahoma Physician Manpower Training Commission and a Regent of the American College of Physicians.

Hugh Tidler is a computer consultant and is responsible for the design and implementation of the Physician Manpower Training Commission Data Bank.

Mary Piscitello, MS, is a research statistician with the Oklahoma Foundation for Peer Review.

The Relationship of Lecture Attendance and Course Grade for Second-Year Medical Students

D.J. FLOURNOY, PhD
RICHARD M. HYDE, PhD

This paper shows that although some medical students made As without attending class, the chances of making a C were much greater among those who did not attend. Students who attended 81% to 100% of the lectures made only As or Bs.

The amount of basic science material to be learned in medical school is great, and medical students are often stressed to make good grades or just to pass difficult courses. In order to advance, each student must decide how best to budget her/her study time. Many students feel that attending lectures is inefficient use of time and they can learn the material adequately by reading notegroups or textbooks. Therefore, one important decision that students must make is whether or not to attend lectures.

Sade and Stroud¹ noted that students who attended lectures during the first two years of medical school had significantly higher grade point averages (GPA) and National Board of

Medical Examiners scores than those who didn't attend. It could be argued, however, that the best students attend classes more than the weaker students. If this were the case, there would be a higher percentage of the best students in high attendance categories.

We feel that a good lecture is the best overall method for disseminating a large amount of course material in a short time. In order to determine the effect of lecture attendance on course grade, we evaluated data from 170 second-year medical students.

Methods

One hundred seventy second-year medical students were asked to categorize their lecture attendance for the EPD (Etiology and Pathogenesis of Disease) course. This is a 14-week, fall lecture and laboratory course in microbiology, immunology, and pathology. Category choices for lecture attendance were: 0% to 20%, 21% to 40%, 41% to 60%, 61% to 80%, and 81% to 100%.

Students' lecture attendance, course grade (letter and numerical), and their class rank in their first year of medical school were

Table 1. — Relationship of EPD grade to lecture attendance.

Percentage of lectures attended	Grade						Total students		Mean course grade
	A		B		C				
	no.	(%)*	no.	(%)*	no.	(%)*	no.	(%)*	
0-20	14	(8.2)	19	(11.2)	5	(2.9)	38	(22.4)	89
21-40	6	(3.5)	12	(7.1)	6	(3.5)	24	(14.1)	86
41-60	8	(4.7)	17	(10.0)	7†	(4.1)	32	(18.8)	86
61-80	9	(5.3)	18	(10.6)	10	(5.9)	37	(21.8)	87
81-100	21‡	(12.4)	18	(10.6)	0	(.0)	39	(22.9)	91
Total	58	(34.1)	84	(49.4)	28	(16.5)	170	(100.0)	88

* % of 170 students

† includes a student who made a D

‡ number of As is significantly different at the 0.02 level when compared to all groups except the 0-20% attendance

evaluated. Course grades in EPD were: A (90.5% to 100%), B (82.3% to 90.4%), and C (74.5% to 82.2%). Grade-point averages were used to establish class rank at the end of the first year of medical school. The point system was: A = 4 points, B = 3, and C = 2. Significance of differences between groups was determined by X^2 analysis.²

Results

A breakdown of course grades by lecture attendance category is presented in Table 1. Table 2 notes the percent of students in each attendance category making As, Bs, or Cs. Of those attending 81% to 100% of the lectures, 54% made As, 46% made Bs, and there were no Cs.

We were also interested in how the top and bottom 20% of the class (at the end of the first year of medical school) did in the EPD course. In the top 20% of the class, 25 students made As, eight made Bs, and one made a C, while in the bottom 20% of the class 19 made Bs and 15 made Cs (Table 3).

It could be said that the best students attend lectures more than the weaker students. This could influence the relationship of course grade and lecture attendance. Table 4 shows the distribution of the top and bottom 20% of students (at the end of the first year) by course grade and attendance category. It is noted that: (1) only 25 of the 58 As were made by students in the top 20% of the class as ranked at the end of the first year; (2) it could not be shown that the top students attended significantly more lectures than the bottom students; and (3) top students tended to make more As than Bs, while bottom students made Bs and Cs about

Table 2. — Relationship of EPD grade to lecture attendance category

Percent of lectures attended	Percent* receiving a grade of		
	A	B	C
0-20	37	50	13
21-40	25	50	25
41-60	25	53	22
61-80	24	49	27
81-100	54	46	0

* % in each lecture attendance category

Table 3. — Relationship of EPD grade to class rank at end of first year.

First year class rank	No. of students	Percent*		
		A	B	C
top 20%	34	74	24	2
middle 60%	102	34	54	12†
bottom 20%	34	0	56	44

* % in each class rank group, each group is significantly different from the other (in the A and B grade distributions), $p < 0.001$

† includes one student who made a D

equally but not As. Those six students in the top 20% who made As and attended 0% to 20% of the lectures did not have more undergraduate semester hours in microbiology/immunology than those nine who attended 81% to 100% of the lectures (Table 4, second and third footnotes). Also, prior microbiology and immunology undergraduate coursework did not deter lecture attendance (Table 4, third footnote).

(continued on next page)

Table 4. — Relationship of course attendance, grades, and class rank*

Percent of lectures attended	Number of students in the					
	Top 20%			Bottom 20%		
	A	B	C	A	B	C
0-20	6†	2	0	0	3	2
21-40	2	1	1	0	3	2
41-60	3	2	0	0	5	5
61-80	5	2	0	0	3	7
81-100	9‡	1	0	0	4	0
Total	25	8	1	0	18	16

* class rank at the end of the first year of medical school
† undergraduate semester hours in microbiology immunology mean h 3.7 range 0-9
‡ undergraduate semester hours in microbiology immunology mean h 5.9 range 0-10

Discussion

Sade and Stroud noted that lecture attendees scored significantly higher than nonattendees in GPA and National Board of Medical Examiners - Part I tests.¹ Our results are in agreement with theirs. Of those students who attended less than 81% of the lectures, between 13% and 27% made grades of C or less. There were no Cs among those who attended 81% to 100% of the lectures, however. Also, lecture attendance was associated with higher grades regardless of whether or not a student was in the top 20% of his/her first-year class.

Our results also show that 19.4% of the class made As or Bs while attending only 0% to 20% of the lectures. Although it would appear that most students should attend lectures, perhaps some can learn the material without attending. One could interpret this to mean that the chances of making an A are reasonable even if one does not attend many lectures (24% of the A students were in the low attendance group). However, it should be noted that there were no Cs among those who attended at least 81% of the lectures.

At this point we encourage students to attend at least 81% of the lectures. There is less chance of making a poor grade, and class participation appears to stimulate subject interest. Also, there should be more to a course than just memorizing facts.³ The ability to use the material in the diagnosis of disease and treatment of patients is the ultimate goal. A good lecturer should be able to convey the use or application of material better than a textbook or notegroups. On the other hand, students cannot be expected to attend poor lectures, thus wasting valuable study time. It is up to faculty to ensure lectures of high quality

in order to encourage and stimulate class attendance and, most importantly, learning. Students at our institution felt that a good lecturer should show concern that students understand the material. They also noted that a good lecture should: (1) be well prepared, (2) have a logical progression of major lecture points, (3) clearly identify expectations of material mastery, (4) be well understood, and (5) evidence clarification of important areas.

Perhaps the most important message is that there is a sizable group of students who do very well in learning the basic science material that they are required to master without the aid of lectures. Faculty members should accept this fact and abandon their overconcern for lecture attendance. They must also realize that students usually miss class because: (1) the lectures are poor, (2) students believe the material can be mastered better by self-study (notegroup and/or text review), or (3) both 1 and 2.

One solution might be to reduce the number of lectures. Students get tired of sitting and listening for long periods each day⁴, regardless of lecture quality. They may learn better by increasing self-study for certain subject areas with high factual content and decreasing lecture attendance. Lectures might be reserved more for factual application than factual dissemination.

In summary, we strongly support student attendance of good lectures and feel that a combination of self-study and lectures should be used to prevent boredom and improve the efficacy of the learning situation. □

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VA Medical Center (113), 921 Northeast 13th Street, Oklahoma City, Oklahoma 73104.

D.J. Flournoy, PhD, a specialist in clinical microbiology, is associate professor of pathology at the University of Oklahoma Health Sciences Center. A 1973 graduate of the University of Houston, he is a member of the American Society for Microbiology.

Richard M. Hyde, PhD, is professor of microbiology and immunology at the University of Oklahoma Health Sciences Center. He is a member of the American Society for Microbiology and several other professional organizations. Hyde was graduated from the University of Minnesota in 1962.

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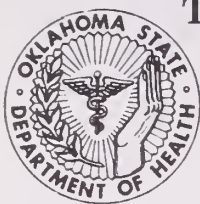
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News From The Oklahoma State Department of Health

Diabetes screening protocol

Of the 11 million persons with diabetes in the United States, over 5 million are unaware they have the disease. To help identify these people, a revised diabetes mellitus screening protocol has been implemented by the Oklahoma State Department of Health, Chronic Disease and Home Health Care Division.

Before the protocol was revised, staff members reviewed current literature on the subject, and a large-scale screening of over 3,000 employees at Tinker Air Force Base in Oklahoma City was conducted to validate the incidence of risk factors in detected individuals.

This experience established that only the population at risk for diabetes needs to be screened. Persons in the high-risk category include those with a family or personal history of the disease, mothers of babies weighing over nine pounds at birth, and those exhibiting symptoms of diabetes.

Since type II diabetes (juvenile onset) is not usually predictable by screening tests and accounts for only about 10% to 15% of cases of diabetes, the protocol guidelines do not recommend screening children under 18 years of age. However, if a child exhibits symptoms of the disease, parents are encouraged to take the child to a physician for immediate evaluation.

Pregnant women should be screened using the gestational diabetes screening guidelines which were developed in collaboration with the Maternal and Child Health Service of the Oklahoma State Department of Health.

The protocol outline suggests that persons fast at least eight hours prior to being screened. The screening test recommended utilizes reagent strips and a reflectance meter available in all county health departments and many physicians' offices. This allows screening to be done quickly and at low cost, with the added advantage of accurate results being available immediately.

In order to reduce the number of false positives and false negatives, the protocol was written to include a wide "suspect" range. If persons fall within that range, they are re-checked on another day. Re-checking helps reduce the number of persons needlessly referred for evaluation and identifies those who could benefit from counseling on diet and weight loss. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR OCTOBER 1983

Disease	October	October	September	Total to Date	
	1983	1982	1983	1983	1982
Amebiasis	2	—	2	12	11
Aseptic Meningitis	30	37	36	331	181
Brucellosis	—	2	1	6	7
Encephalitis, infectious	2	4	2	31	36
Gonorrhea (Use Form ODH-228)	1,238	1,267	1,275	12,997	13,344
Hepatitis A	112	87	55	507	626
Hepatitis B	30	30	22	268	292
Hepatitis Unspecified	30	37	21	214	231
Malaria	—	—	1	8	8
Measles (Rubeola)	—	3	—	1	30
Meningococcal infections	4	2	2	31	24
Pertussis	65	—	32	302	5
Rabies (Anihal)	8	13	1	99	172
Rocky Mountain Spotted Fever	6	7	18	212	88
Rubella	—	—	—	—	3
Salmonellosis	94	88	77	518	405
Shigellosis	46	66	31	214	347
Syphilis (Use Form ODH-228)	10	18	15	185	170
Tetanus	—	—	—	—	1
Tuberculosis	16	22	23	205	279
Tularemia	2	7	5	29	32
Typhoid Fever	—	1	—	3	3

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New guidelines to hold down cost of home health care

Over the past two years, home health care has been growing at an alarming rate. The number of agencies, number of claims processed, and dollar amount paid has been rising steadily. The total dollar amount paid for home health care in March 1983 was \$1,180,128. Because of these facts, the Health Care Financing Administration (HCFA) and Blue Cross/Blue Shield of Oklahoma have been examining more claims individually and are noting the rising utilization of services. HCFA feels that much of the control of home health utilization can be greatly assisted if the physician can and will take a more active role in authorizing the plan of treatment for home health benefits.

Home health care is the treatment of an illness or an injury in the patient's home. The existence of this program has enabled many

elderly or disabled individuals to stay in their own homes or in family members' homes, maintaining some degree of control over their own environment while still receiving the medical care needed to prevent nursing home placement. The home health services offer the patient and the physician a possible alternate means of treatment; however, Medicare regulations have specific requirements that must be met for Medicare program reimbursement.

To qualify for home health benefits under either Part A or Part B of the program, the beneficiary must be (1) confined to his or her home; (2) under the care of a physician; (3) in need of skilled nursing services, physical therapy, or speech therapy on an intermittent basis; and (4) services must be provided by a Medicare certified home health agency.

Beneficiaries who require one or more of these services for home health benefits are eligible to have payment made on their behalf for the skilled nursing, physical therapy, or speech therapy they need, and for any other home health services specified by the law. Those services include occupational therapy, medical/social services, the use of medical supplies and appliances, and intermittent services of home health aids. Conversely, patients who are not confined to their homes and/or do not require occasional skilled nursing, physical therapy, or speech therapy cannot qualify to have payment made under the Medicare program for any home health services furnished them.

For the purpose of Medicare, generally a
(continued on next page)

OFPR executive director resigns

After serving nearly four years as executive director of the Oklahoma Foundation for Peer Review, Jerry Kelly has resigned to enter private industry.

Kelly became the chief executive officer for the foundation in early 1980. At that time, the foundation was operating an innovative program as a Professional Standards Review Organization, known as a PSRO.

In private industry, Kelly will serve as a medical office and hospital business office consultant and will work not only as a practice management specialist, but also to assist the physician who is interested in computerizing an office. □

beneficiary will be considered to be "home-bound" if he has a condition resulting from an illness or injury that restricts his ability to leave his home, except with the aid of supportive devices or other persons, and usually then to receive health care. Thus a person restricted because of feebleness and insecurity brought on by advanced age would not be considered confined to his home and would not qualify for Medicare home health benefits.

To meet the intermittent requirement, an individual must have a medically predictable recurring need for skilled services (skilled nursing care, physical therapy, and speech therapy) at least every 60 days. The skilled services could be more frequent, but not on a

daily basis for an extended period of time.

By the same token, Medicare regulations require that skilled nursing care, speech therapy, or physical therapy services be ordered by and included in the plan of treatment established by the physician for the patient. Durable medical equipment and medical supplies and services must be furnished under a plan of treatment established and periodically (every 60 days) reviewed by the physician, and the items and services must relate to the patient's condition. The plan of treatment should specify (1) types of medical services required, (2) frequency, (3) drugs and medications, (4) diagnosis, and (5) any functional limitation resulting from an illness or injury.

The Oklahoma State Medical Association (OSMA) is now on record, through action taken by the Board of Trustees on Sunday, November 13, 1983, in support of newly published guidelines which set the maximum number of visits that will automatically be reimbursable for an indicated diagnosis. The number of allowable visits can be increased in special cases if proper documentation from the physician is provided. Again, the key to the direction of the patient's treatment in the home setting is the same as the hospital-physician directed treatment. HCFA and Blue Cross/Blue Shield on Oklahoma are requesting the physician community to join with them to ascertain that those beneficiaries requiring medical care and meeting Medicare guidelines will receive those services prudently.

Persons interested in obtaining a copy of these guidelines should contact OSMA headquarters. □

Physicians named life members by OSMA Board of Trustees

Seven Oklahoma physicians were elected to OSMA Life Membership at the OSMA Board of Trustees meeting on November 13, 1983.

Approved for lifetime membership were William C. Alston, Jr, MD; Alfred H. Bungardt, MD; Herbert J. Forrest, MD; John F. Gray, MD; and Hugh B. Spencer, MD, of Tulsa and Bryce Petrie, MD, and Chester R. Seba, MD, of Oklahoma City.

To be eligible for OSMA Life Membership, a physician must be a member in good standing of the association and must meet one or more of the following criteria: be retired from the active practice of medicine because of ill health or age; have been engaged in the active practice of medicine for 50 years or more; be 70 years of age or older. □

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Shangri-La to host 1984 OSMA Annual Meeting

Shangri-La, one of Oklahoma's most beautiful resort areas, will be the site of the 1984 Annual Meeting of the Oklahoma State Medical Association (OSMA). Scheduled for Thursday, May 10, through Saturday, May 12, the meeting is a combination of scientific programs, sports competition, gala social events, and business meetings.

All day Friday and Saturday morning will be reserved for scientific programs. At 8 AM on Friday morning, the program will begin with a

special presentation by Smith, Kline and French, "The Differential Diagnosis of Arthritis." This could best be described as a "wet clinic" presentation.

The second speaker Friday morning will be Stephen R. Newmark, MD, Tulsa internist, speaking on "Nutritional Facts and Fantasies, Mysteries and Myths."

The first program in the afternoon will be "Early Detection of Breast Cancer," and the day will close with "Medical Economics — Private Practice in the 1980s," a presentation by Stephen Landgarten, MD, of Tulsa.

Saturday morning's program will start at 8 AM with "Sexually Transmitted Diseases of the 1980s" by Larry Edwards, MD, Tulsa specialist in infectious disease. Jerry Smilack, MD, of Dallas, will close the official OSMA scientific program with "Antibiotic Update — 1984" at 9:15 AM.

In addition to the OSMA program, several specialty societies will also have presentations during the Annual Meeting. Most of these will be scheduled for Saturday, May 12.

The President's Inaugural Dinner Dance will be held Friday evening, May 11. At that time George Kamp, MD, will step down as president of the Association and be replaced by James B. Eskridge III, MD.

Humorist "Doc" Blakely, PhD, of Whorton, Texas, will be the guest speaker for the Inaugural Dinner Dance. "Doc" has been called the "thinking man's humorist" and recently was awarded the prestigious CPAE designation by the National Speakers Association. This is the highest award that can be granted to a professional speaker.

The Oklahoma University Medical School Alumni Association will sponsor a luncheon on Friday, May 11, for its members and their guests along with all other interested individuals. The OSMA Auxiliary will also have a luncheon on Friday for members, physician spouses, and other guests.

In addition to a "run for your health," there will be tennis and golf competition for physicians and their spouses.

The annual meeting of the OSMA Board of Trustees will be conducted on Wednesday, May 9, and the Opening Session of the House of Delegates will be Thursday, May 10. Closing Session of the House will be at approximately noon on Saturday, May 12. □

Ten New Year's Resolutions for better health in 1984

The American Council on Science and Health (ACSH) has released its own list of New Year's Resolutions. While your thoughts are still on plans for a healthier, safer new year, you might want to include these in your list:

1. **Don't smoke.** If you don't smoke, don't start. If you do, make this the year that you kick the habit.

2. **Don't mix drinking with driving.** Fifty thousand people die in the US each year in traffic accidents, and half of these deaths are attributable to alcohol.

3. **Adopt a sensible diet.**

4. **Exercise regularly, but exercise caution.**

5. **If you drink alcohol, do it in moderation.**

6. **Have your blood pressure checked.** High blood pressure can be treated, *if detected*.

7. **Use seat belts, every time.** Seat belts can reduce traffic deaths by 50%, and injuries by 65%, *if they're used*.

8. **Make sure there's a working smoke detector in your home.** Residential fires are the second most frequent cause of accidental death in the home.

9. **Be a cautious consumer of health information.** A great deal of health advice distributed in books, magazines, and newspapers is unsound, and some of it is dangerous. Shop as carefully for health advice as you do for everything else.

10. **Focus your efforts on things that matter.** □

Clinic administrators elected to office in international group

James W. Loy, FACMGA, administrator of the Chickasha Clinic, has assumed the office of president of the Medical Group Management Association (MGMA), and A. Wayne Coventon, executive director of the Oklahoma City Clinic, will serve as chairman of the MGMA Insurance Committee for 1983-84.



James W. Loy

Loy was inducted during the association's 57th annual conference in Washington, DC, in October. He accepted the new position following three years of service on the association's board of directors. A fellow in the American College of Medical Group Administrators, he joined MGMA in 1955, the year he accepted his present position in Chickasha.

Founded in 1926, the MGMA is the oldest and largest professional organization representing administrators in medical group practice. Membership currently includes over 4,500 individual administrators and the medical groups they represent in the United States, Canada, and foreign countries.

Governed by its board of directors, MGMA is committed to improving the management of medical group practice. By bringing together people with mutual interests, MGMA serves its individual and organizational members and the group practice of medicine. □

House of Delegates approves foundation's PRO bid

In a special called meeting, the Oklahoma State Medical Association (OSMA) House of Delegates endorsed an attempt on the part of the Oklahoma Foundation for Peer Review (OFPR) to obtain the Peer Review Organization contract for Oklahoma. Known as PRO, the Peer Review Organization is authorized by the federal government to take over all hospital review functions for Medicare purposes.

The Delegates' action was not an endorsement of the PRO concept, but encouragement on the part of the foundation to seek the PRO contract. While the foundation is an independent organization, it does operate more efficiently when it has the approval of the OSMA and the Oklahoma Osteopathic Association.

In calling this special session of the House of Delegates, OSMA President George Kamp pointed out that the House had approved the foundation's attempt to obtain the Professional Standards Review Organization (PSRO) contract for Oklahoma many years ago, and since the PRO concept is so different from PSRO, it was felt that the House should again be given an opportunity to express its feelings about a controversial issue.

The PSRO review concept was primarily hospital-based, in that it functioned through hospital committees and employees with only a minimum of external monitoring by the foundation. Current regulations for a PRO require that it be operated entirely by the Foundation, utilizing its own employees to actually go into hospitals for review purposes. □



The evening sights of Shangri-La, Afton, Oklahoma.

In Memoriam

1983

<i>Dewey K. Rhea, MD</i>	<i>January 3</i>
<i>Fred C. Buffington, MD</i>	<i>January 4</i>
<i>C.D. Cunningham, MD</i>	<i>January 26</i>
<i>William S. Jacobs, MD</i>	<i>February 9</i>
<i>John R. Little, MD</i>	<i>February 11</i>
<i>L.A.S. Johnston, MD</i>	<i>February 16</i>
<i>Selwyn A. Willis, MD</i>	<i>March 3</i>
<i>Virgil Ray Forester, MD</i>	<i>March 8</i>
<i>George Ross, MD</i>	<i>March 11</i>
<i>Holice B. Powell, MD</i>	<i>March 18</i>
<i>John A. Brasfield, MD</i>	<i>April 15</i>
<i>George M. Adams, MD</i>	<i>May 3</i>
<i>John R. Reid, Jr, MD</i>	<i>June 14</i>
<i>Gilbert E. Haslam, Jr, MD</i>	<i>June 15</i>
<i>Thomas A. Trow, MD</i>	<i>June 23</i>
<i>Richard D. Mullett, MD</i>	<i>June 28</i>
<i>Aaron C. Little, MD</i>	<i>July 1</i>
<i>Michael C. Manning, MD</i>	<i>July 3</i>
<i>Hillard E. Denyer, MD</i>	<i>August 8</i>
<i>Edward A. Allgood, MD</i>	<i>August 18</i>
<i>Hugh E. Wilson III, MD</i>	<i>August 27</i>
<i>Harold J. Black, MD</i>	<i>September 1</i>

1984 OSMA directory distributed

OSMA's 1984-85 Medical Directory was published and distributed to all association members in early December. The 188-page booklet contains the names, addresses, and specialties of over 4,000 medical doctors.

One copy of the directory is furnished free of charge to each OSMA member, and additional copies may be purchased at \$12.50 each by physicians. Price of the directory to the general public is \$17.50 per copy.

Divided into two main sections, the directory contains an alphabetical listing of all physicians in the state, along with address information, year of birth, year and school of graduation, and primary specialty. The second major section of the directory lists physicians alphabetically by city of practice. Secondary specialties are found in this section.

The directory also contains a listing of medical schools throughout the world and a roster of Oklahoma hospitals. □

Infallibility tough to deal with

The idea that physicians must be infallible adversely affects the health of patients and physicians-in-training alike, according to a report in a recent *Journal of the American Medical Association (JAMA)*.

The concept of infallibility also blocks constructive criticism among peers; most physicians expect excessive criticism should they make mistakes, say Steven Dubovsky, MD, and Robert W. Schrier, MD, from the University of Colorado School of Medicine, Denver. Such anxiety among physicians often leads to substance abuse, anxiety, depression, and later "burnout," they add.

"This fear of criticism may be greatly out of proportion to actual critical comments made by faculty or fellow trainees, perhaps because of the high expectations that the young physician has for himself," say the researchers. "One assumption, for example, is that physicians are not as fallible as other human beings; thus, many clinicians understandably believe that they should not make mistakes, at least not serious ones, especially when the patient's well-being or even his life is at stake."

The authors suggest that medical school professors should teach their students how to be as empathetic with each other as they are with their patients. The teacher also must be "willing to expose his own uncertainties and errors to the scrutiny of his peers and students, and to suspend the facade of the all-knowing and always correct expert." □

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Book Reviews

The Medical Casebook of Adolf Hitler. His Illnesses, Doctors and Drugs. By Leonard L. Heston and Renate Heston, New York; Stein and Day, 1980, pp 184, illus, \$12.95.

Relatively little has been written about the health of Adolf Hitler, the most remarkable head of state to have appeared on the European scene since Napoleon. Dr Leonard L. Heston, a professor of psychiatry at the University of Minnesota, and his wife, Renate Heston, a nurse, have attempted to fill this gap. The book is based on published and recently declassified material, and on extensive interviews among persons who knew Hitler.

The authors believe that Hitler had major abnormalities of the gastrointestinal, nervous, and vascular systems. They document that Hitler was a compulsive medicine-taker and believe that his health problems were in large part due to drugs. They provide persuasive evidence that the character changes he underwent during the last years of his rule were most probably due to the effects of amphetamine. Albert Speer, in the Introduction, endorses the conclusions reached by the Hestons.

Hitler was also eccentric. From childhood he seemed to have adopted a course "to purify and exalt the German people." After a promising start in school he became a dropout, earning a marginal living by selling his paintings to tourists in Vienna. At the beginning of World War I he evaded conscription in Austria and enlisted in the Bavarian army. He fought loyally through four years of war, was wounded and gassed, and won the Iron Cross, a respected German medal.

In the early 1930s Hitler began experiencing pain in the right upper abdomen. In keeping with his distaste for traditional authority, he experimented with several patent medicines and finally settled on Dr Koester's antigas pills, which contained nux vomica and belladonna. He also began unusual diets, the main ingredients of which were honey, mushrooms, and yogurt. He was concerned about obesity and took phenolphthalein in the belief that it would prevent his gaining weight. He hardly ever drank tea, coffee, or alcohol, but sucked "cola candies" which presumably contained caffeine. During World War II he took

barbiturates almost every night for his chronic insomnia. An important consequence of his bad health was his belief that his life would be short, and he felt a constant pressure to accelerate his plans.

Finally Hitler's complaints led to his meeting Dr Theo Morell, who remained his personal physician from 1936 until his death. The Hestons regard Morell as a major evil influence. Morell's influence over Hitler was complete. He never referred Hitler for a proper consultation or any indicated diagnostic studies.

Morell graduated from Munich Medical School in 1912 and worked first as a ship's doctor and then briefly as an army physician during World War I. After the war, in an office on

**An important
consequence of his bad health
was his belief that his
life would be short . . .**

the most fashionable street in Berlin, he established a specialty practice in dermatology and venereal disease. He also treated "sexual neurasthenia" with various forms of electrical stimulation. According to the authors, who reviewed Morell's business and medical records, the most striking overall impression is that Morell avoided sick patients, and anyone who seemed ill was referred to another physician. As a result, Morell's patients were mainly persons with vague, probably psychophysiological complaints, a few weight reduction problems, and occasionally venereal diseases. However, in this framework he was notably successful.

Morell believed in polypharmacy, particularly with the most recently introduced drugs, but was careful to administer them in suboptimal doses. He preferred to administer drugs by injection even though they may have been effective by mouth. He was the great advocate of such treatments as nonspecific hormonal therapy and tissue therapy. However, the basic treatment received by nearly all Morell's patients was Mutaflor, a preparation of living

(continued on next page)

bacteria cultured from the feces of a "Bulgarian peasant of the most vigorous stock."

The Hestons state that Morell introduced Hitler to methamphetamine. It is possible that Hitler began using this drug as early as 1936, but by 1942, according to the authors, he was receiving large doses intravenously and orally. In 1942 his associates began to notice irritability, distrust, agitation, loss of emotional control, and difficulty in making decisions. These manifestations worsened up to the time of his suicide in April, 1945. The manifestations described are certainly compatible with the effects of excessive amphetamines. He also displayed loquacity and capriciousness (p 11).

Speer comments on Hitler's rigidity of mental processes and excessive attachment to detail. He states (p 13) that from the summer of 1942, "Thus began a peculiar state of petrification and rigidity; apathetic uncertainty, agonized indecisiveness, and apparent inability to deal with all important problems, and obstinacy when faced with them; and a permanent state of caustic irritability. Formerly, he had made decisions with almost playful ease. Now he had to squeeze them out of an overburdened brain. He no longer had inner peace and was no longer self-possessed. Rather, in a state of continual inner turmoil, he was always prone to impulsive decisions. On the other hand he would also postpone important decisions for months. Outwardly, he did not appear to be moody. . . ."

Hitler's deterioration is usually ascribed to the corrupting influence of absolute power, but it now seems likely that the effect of excessive drug usage was an important additional factor. The reader should not lose sight of the fact, however, that some of Hitler's cruelest and most far-reaching acts were ordered as early as 1931 and cannot be ascribed to the use of amphetamines or other drugs.

In addition to the interesting introduction by Albert Speer, there are other valuable special sections. The authors provide a medical chronology of Hitler. In the appendices there is a chronological listing of the findings of physical examinations of Hitler from 1923 to 1945. Laboratory findings are reproduced as well as electrocardiograms, and there is a complete listing of all treatments which Hitler is known to have received from 1936 to 1945.

This is a most interesting book. It is clearly written, well documented, and represents an important contribution to medical history.

*Harris D. Riley, Jr, MD
Children's Memorial Hospital
University of Oklahoma Health Sciences Center
Oklahoma City, Oklahoma*

Paediatric Cardiology: Volume 3. Edited by A.E. Becker, G. Losekoot, C. Marcelletti, and R.H. Anderson. Edinburgh, London, Melbourne, and New York: Churchill Livingstone, 1981. 485 pages with numerous illustrations, tables, and figures. \$65.00.

The editors of this volume have compiled the proceedings of a symposium dealing with the broad field of congenital heart disease. The book contains nine sections and 38 chapters composed of contributions made by 28 American and European cardiac morphologists, pediatric cardiologists, and pediatric cardiovascular surgeons who are experts in their respective fields. Each section is usually preceded by an introduction, followed by detailed discussion of anatomy, morphologic-cineangiographic correlation, the role of surgical intervention in certain types of cyanotic congenital heart disease, and a discussion by the participants. The discussion which follows several related chapters on specific topics in each section is instructive and enhances the subject matter.

**The photographs,
diagrams, and illustrations
of angled angiography
are superb.**

The chapter on sequential chamber analysis defines clearly this approach. A unique feature of this chapter is the application of new and different nomenclature in the field of morphology and anatomy of congenital heart disease. The chapter on axial angiography is new as compared with information in current pediatric cardiology texts. Dozens of illustra-

tions, generally of superb quality, have been incorporated.

The section on electrophysiology and its clinical application in pediatric cardiology emphasizes that ventricular arrhythmia in Tetralogy of Fallot after surgical repair might be a more important factor in sudden death than is worsening of atrioventricular conduction. It is interesting to note the author's experience in comparing the number of infants and children who show arrhythmia on standard electrocardiograms with those demonstrating dysrhythmia on 24-hour recordings. Chapter XX on Jatene operation (arterial switch) for complete transposition of the great arteries offers new information on this surgical technique.

The section on coronary arteries in congenital heart disease discusses coronary arterial patterns — a superb guide to identification of congenital heart disease. Coronary angiography in chapter XXV adds another new dimension to this volume. It emphasizes once more the importance of the diagnosis of coronary artery anomalies prior to surgical treatment of congenital heart disease.

The daily advances being made in echocardiography makes almost outmoded much of this section of the book.

The section on straddling atrioventricular valves is well written and covers in detail these important anomalies. The photographs, diagrams, and illustrations of angled angiography are superb.

The last section is on palliation for non-correctable cardiac lesions. It is discussed from a surgical point of view, is accompanied by case presentations, and provides interesting reading.

Paediatric Cardiology: Volume 3 is the best reference work of its kind in the field of morphologic-angiographic-surgical correlation of complex congenital heart disease, and it should appeal to all pediatric cardiologists, morphologists, cardiovascular surgeons, and their trainees who require definitive and current information on this aspect of congenital heart disease. In spite of several typographical errors, this book should prove an excellent supplement to our current standard textbooks of pediatric cardiology.

A. Cyrus Tahernia, MD, FACC
451 Utica Square Medical Center
Tulsa, Oklahoma 74114

Molecular Interactions and Activity in Proteins. (Ciba Foundation Symposium 60, London, December 6-7, 1977) 287 pages with illustrations. New York: *Excerpta Medica*, 1978.

The twenty-three participants of this symposium heard and discussed each of thirteen papers presented in the text. A general discussion at the end of the symposium concerns reactions in super-cooled water and studies of active sites of metalloenzymes using perturbed angular correlation of λ -radiation.

Several papers were exceptionally advanced for the time of the meeting. T.L. Blundel and his associates presented landmark studies on the interactions of receptors and the polypeptide hormones, insulin and glucagon. These data delineate the portion of the insulin molecule that binds to the receptor. Some groups are attempting to synthesize non-peptide analogs of this section with a view to developing an oral substitute to insulin.

**. . . There are more than enough
rate-enhancement mechanisms
to account for the high rates
of enzyme-catalyzed reactions.**

In an extensive work, M.J. Halsey and associates presented the groundwork for establishing the rules of anesthetic-protein interaction. This is important because "Protein perturbations associated with anaesthetic interactions are relevant to: (a) the central molecular mechanisms of general anaesthesia; (b) the molecular basis of physiological selectivity and anaesthesia; (c) the use of anaesthetic agents as selective hydrophobic probes for the study."

In general the papers could be described as a basic gathering of the understanding necessary to enable the synthesis of non-protein analogs of polypeptide hormones and enzymes. W.N. Lipscomb presented work with models that showed there are more than enough rate-enhancement mechanisms to account for the high rates of enzyme-catalyzed reactions. These models do not account for other aspects of the enzyme activity such as shifts from in-

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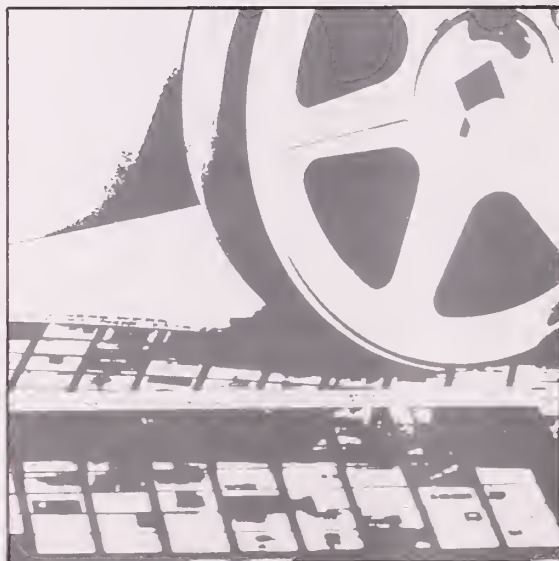
active to active conformations, solvent effects, and local environment. We have yet to master the simultaneous properties of specificity and rate enhancement of a moderately efficient enzyme in a synthetic catalyst. An understanding of the properties of structures within the protein with an aim to prediction of tertiary structure is not as precise as some would believe. F.M. Richards and T. Richmond developed and extended calculations based on area changes of residues between random coil to β sheet or coil to α helix, which put a firmer basis on the secondary structure assignments. Further area changes to place them in tertiary structure are necessary in addition to the space packing considerations. The widely accepted postulate that transitions of protein molecules between extreme conformations proceed instantly was called into question by L.A. Blumenfeld, who

was not able to attend the symposium and whose manuscript arrived too late to be read. This was the fourteenth paper and no discussion was possible. By analysis of hemoglobin transitions from stationary states in the light to equilibrium states in the dark, large quantities of protein molecules appear to be in out-of-equilibrium conformations. Somewhat supportive of that idea was the evidence of D.M. Blow which showed crystallographic evidence for disorder in parts of the main polypeptide chain of some proteins. It was suggested that the rigid conformation favored reactivity and specificity, while disorder concerned control functions.

Robert Delaney, PhD

*Dept. of Biochemistry & Molecular Biology
University of Oklahoma Health Sciences Center
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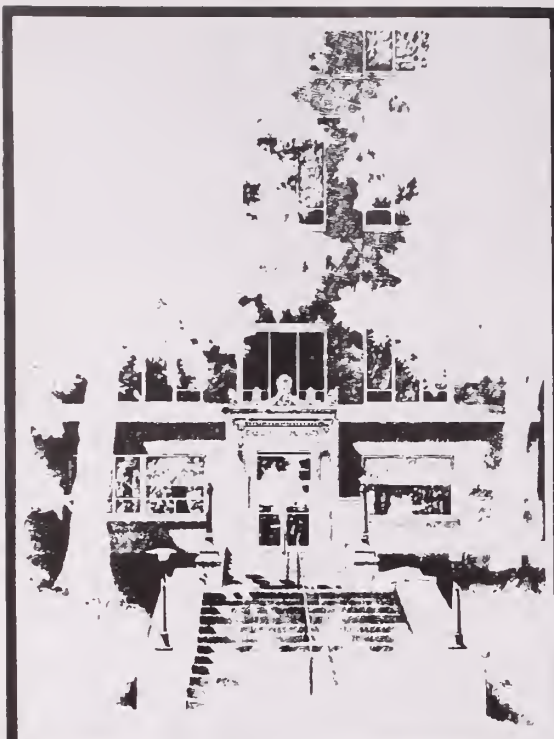
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1. Stone PH, Turin ZG, Muller JE. Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al. Nifedipine therapy for coronary artery spasm. Experience in 127 patients. *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY

PROCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS:

Known hypersensitivity reaction to PROCARDIA.
WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: **Hypotension:** Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients; transient hypotension in about 5%; palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

More detailed professional information available on request

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*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
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Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



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Please see PROCARDIA brief summary on adjoining page.

Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procordia nor will they all respond to the same degree.

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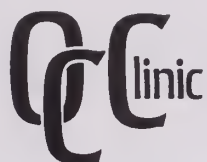
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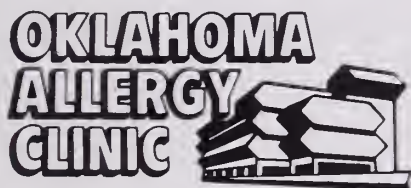
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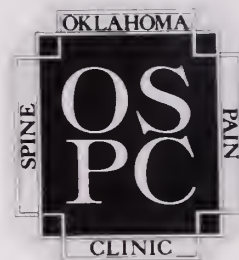
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... These are but a few legislative bywords affecting the medical profession and the health care delivery system. You can learn more about these and other national and state issues at Auxiliary's State Day at the Legislature on Wednesday, February 22, 1984 at the state capitol.

At no other time in US history has such an overabundance of policy been directed at medical practice. In desperate attempts to bring the national budget under control, the federal government has introduced policies that are projected as cost-containing. Preliminary analysis, however, points to their cost-shifting nature. While aspiring to lower health care costs we may well be replacing resources spent for quality medicine with those spent for bureaucracy and management. The layers of bookkeeping alone inherent in recent regulations will be consequential.

What is to be done? Legislation attempting to control the health care delivery system may be inevitable, but the *how's* of it are far from formulated. The process needs and deserves our input. We owe it to the public and to ourselves to articulate and share our views, for if the system is to operate justly and reasonably, it must have balanced input. Only physicians are able to judge the impact of policies on their

patients and their practices. But the demand on their time is astronomical. This is where the members of the auxiliary can share with their time and talents in serving as an extension of the OSMA and being instrumental in providing medicine's point of view. Your participation is essential in balancing the information on which legislators base their decisions.

Today's policies will affect all of us and the public for years to come. So please help us in providing this input and in maintaining the level of health care for which we have all sacrificed so much to create and which the people of this country have come to enjoy — a quality of medicine unequalled in the world.

State Day at the Legislature is planned to inform you and make you feel more comfortable and confident in participating in the political process. Please plan to attend and hear about current issues and concerns; refresh yourself on meeting and communicating with your legislators. Veronica Montero, State Legislative Co-Chair, and I have planned a day for you that we hope you will find exciting and interesting. Be there.

Mrs. Mark E. (Ellie) Idstrom
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Reservations for the day and luncheon may be made by sending this portion with your check for \$10.00 made to Oklahoma State Medical Association Auxiliary and sent to OSMAA, 601 Northwest Expressway, Oklahoma City, Oklahoma 73118, Attention: Legislative Committee.

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■ **Headache is the most common symptom** of acute mountain sickness, a condition that can plague travelers at altitudes above 8,000 feet with nausea, vomiting, loss of appetite, lassitude, and insomnia as well. Dehydration caused by exercise and increased respiration is also a problem. Richard D. Mountain, MD, Denver, warns that aspirin, because it can exaggerate the chemical changes that occur in the blood at high altitudes, should not be used to treat the headache. He also advises a 24-hour acclimatization rest at 4,000 to 6,000 feet and minimal exertion for the first 24 to 48 hours at high altitude.

■ **Routine disinfection of hospital hydrotherapy tanks** may not be sufficient to kill the *Legionella pneumophila* bacterium, the organism — common in all water supplies — that was responsible for the 1976 outbreak of Legionnaires' disease in Pennsylvania. Researchers at Kansas University Medical Center, Kansas City, headed by Wayne Brabender, MD, have reported the case of a 71-year-old man who acquired a *Legionella* infection after hydrotherapy for an open hip wound. The tank used had been disinfected with providone-iodine before, during, and after treatments. Hyperchlorination and superheating have been reported effective in reducing growth of *L. pneumophila* in institutional water supplies, the researchers say.

■ **Cigarette smoking slows blood flow** to the brain, according to Robert L. Rogers, MA, and colleagues at Baylor College of Medicine in Houston. Compared to nonsmokers, cigarette smokers (those who smoke more than one pack per day) experience a seven percent decrease in blood flow to the brain. This blood deficit increases the risk for stroke, say the researchers, probably by enhancing cerebral arteriosclerosis. They add that smokers experience an even greater blood deficit to the brain if they also suffer from other risk factors, such as hypertension, hyperlipidemia, and diabetes.

■ **Defying a widely held notion**, recent patients of obstetrician Donald J. Carek, MD, from the Medical University of South Carolina, Charleston, more often voice a preference for a female infant rather than a male. Carek notes the vulnerability of new mothers who express displeasure with the sex of their newborns and urges physicians to help them resolve their feelings.

■ **Women who weighed 2,000 grams or less** (less than 5 pounds) at birth are likely to have poor pregnancy outcomes, report epidemiologists at Seattle's University of Washington. Evette Hackman, PhD, and colleagues studied 748 pregnant women and found that mothers who had been low-weight babies themselves were more likely to have babies needing neonatal intensive care, suggesting that factors influencing one birth carry forward to the next generation.

■ **M. Dewayne Andrews, MD**, Oklahoma City, has been elected to fellowship in the American College of Physicians. A specialist in internal medicine, Andrews will be honored during the Convocation ceremony at the College's Annual Session in Atlanta, April 26-29, 1984.

■ **Health care professionals are often stumped** by what children know or don't know about illness, according to Ellen C. Perrin, MD, and James M. Perrin, MD, of Vanderbilt University School of Medicine. They report that physicians and nurses, when asked to estimate children's ages by their answers to questions about the cause, prevention, and treatment of illness, generally overestimate the understanding of young children and underestimate that of older children. The researchers suggest that health care providers might deal more effectively with children if they become more familiar with typical stages of children's understanding of illness.

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



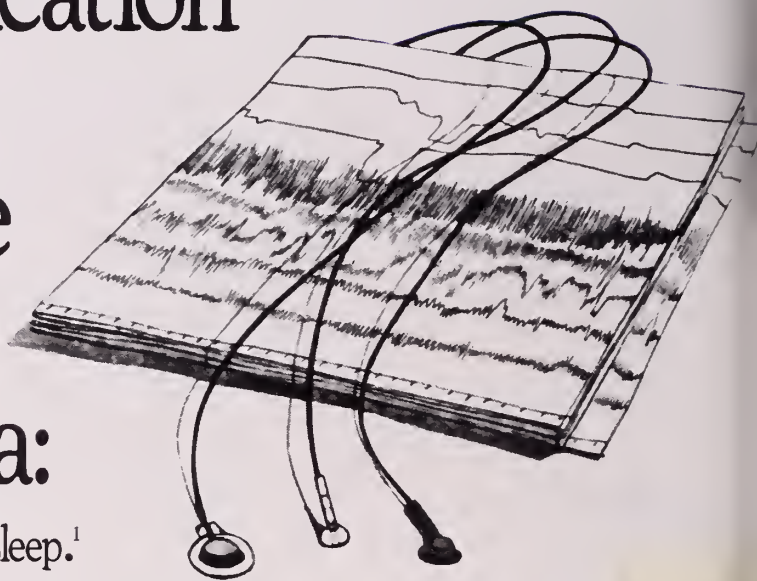
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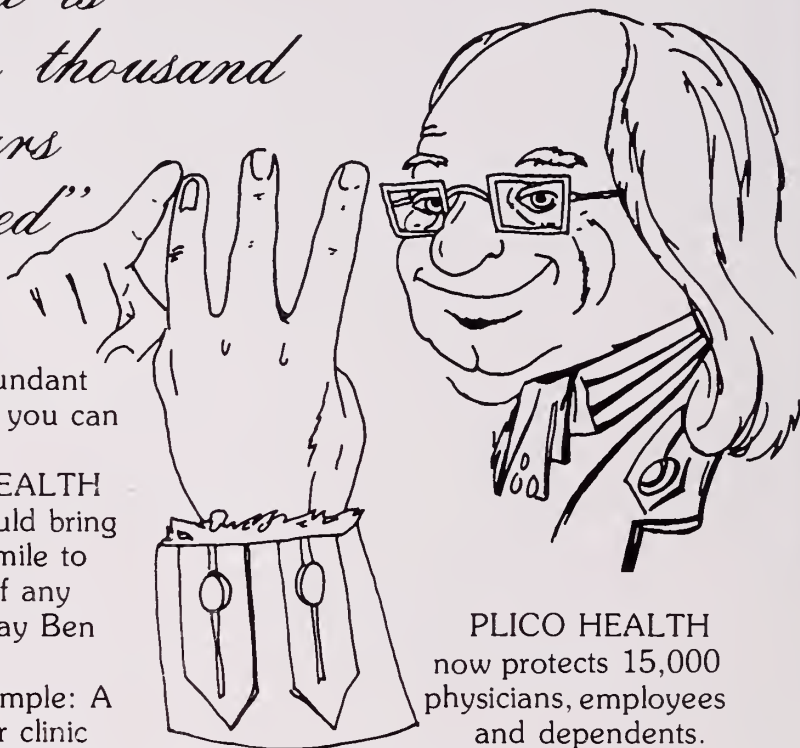
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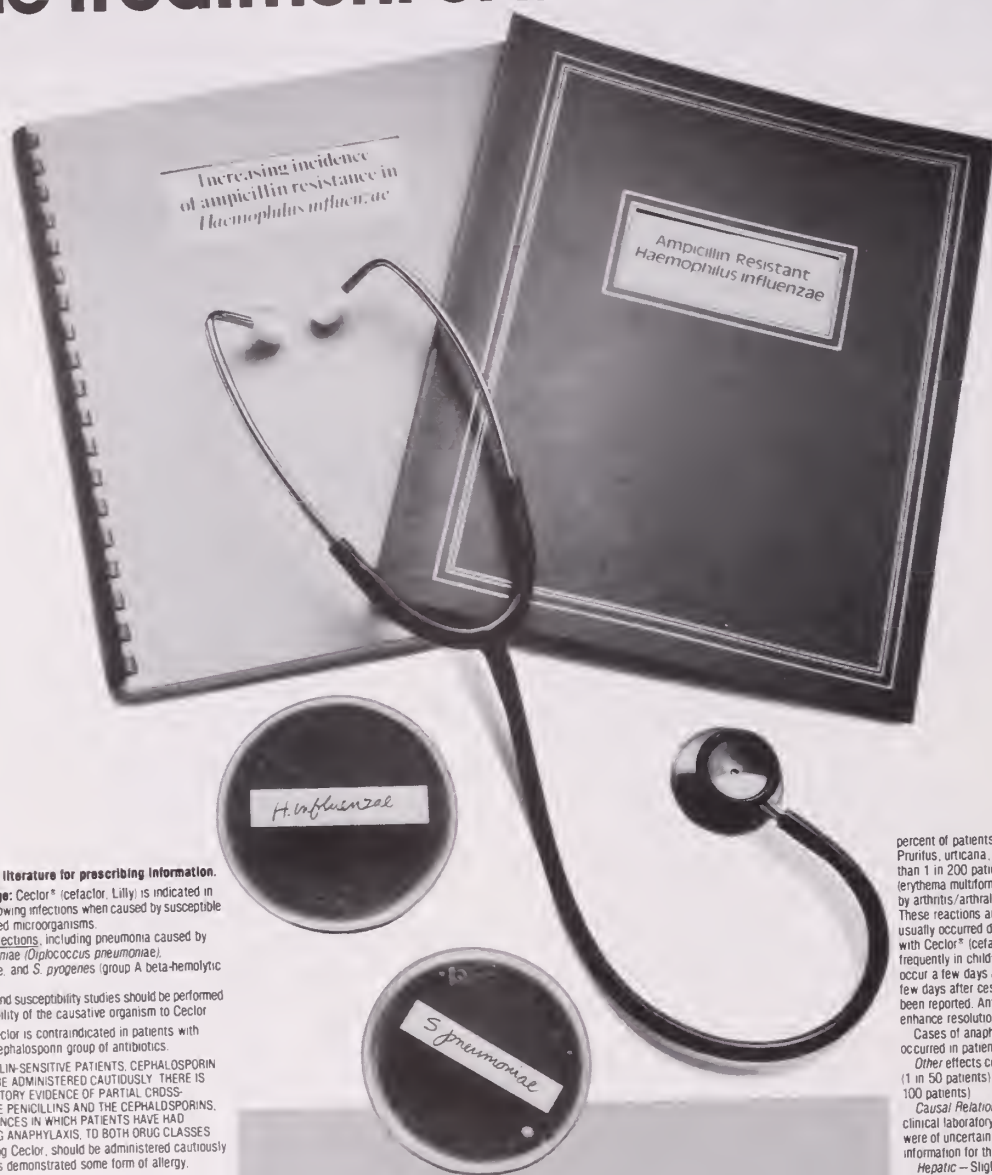
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An added complication... in the treatment of bacterial bronchitis*



Brief Summary.

Consult the package literature for prescribing information.

Indications and Usage: Cefaclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefaclor.

Contraindication: Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made. Because safe dosage may be lower than that usually recommended as a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistix* tablets but not with Tes-Tape* (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy: Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in fetuses given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy: Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Cefaclor.

Hypersensitivity reactions have been reported in about 1.5

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefaclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.⁷

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percent of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis-like, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefaclor* (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). (100281R)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefaclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285. Eli Lilly Industries, Inc., Carolina, Puerto Rico 00630.

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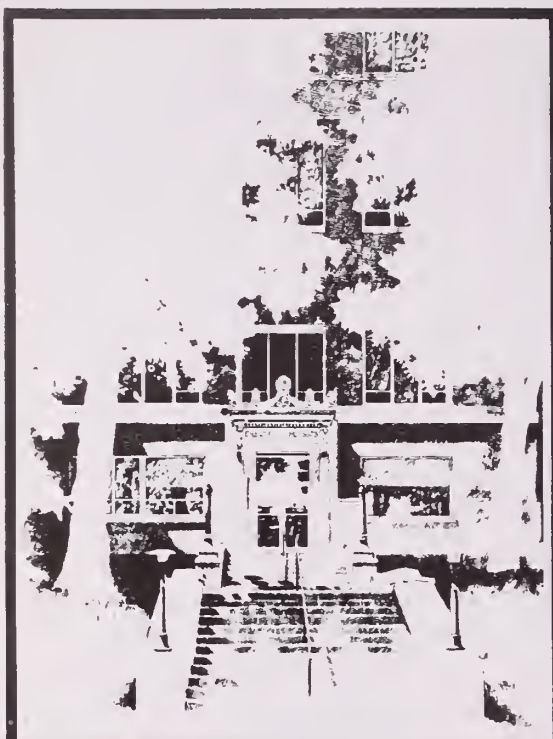
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BRIEF SUMMARY

PRDCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. **Vasospastic Angina:** PRDCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PRDCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Effort-Associated Angina):** PRDCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PRDCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PRDCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PRDCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PRDCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PRDCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PRDCARDIA and a beta blocker, but the possibility that it may occur with PRDCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PRDCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PRDCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PRDCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PRDCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PRDCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PRDCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PRDCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PRDCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PRDCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PRDCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug Interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PRDCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PRDCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PRDCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PRDCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients; transient hypotension in about 5%; palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PRDCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PRDCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGPT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PRDCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PRDCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PRDCARDIA CAPSULE contains 10 mg of nifedipine. PRDCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

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in about 10% of patients, transient hypotension in about
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- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page

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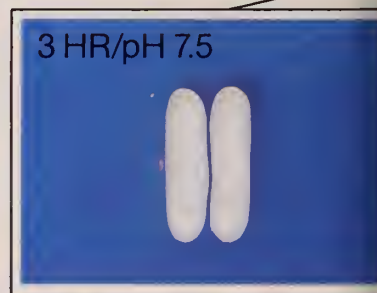
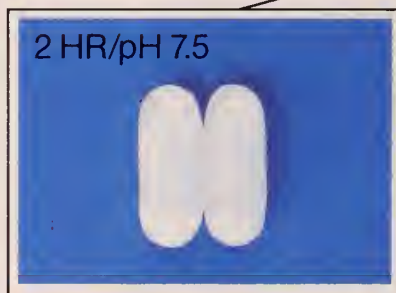
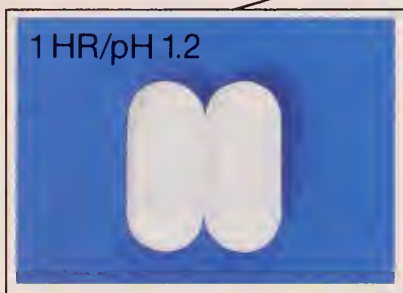
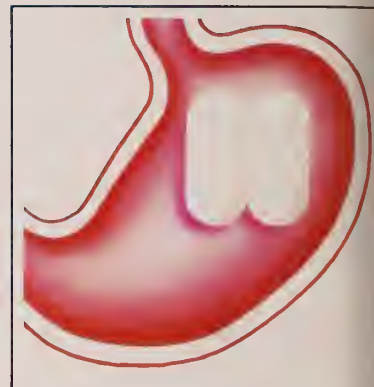
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ZORprin[®]

(ASPIRIN) ZERO ORDER
RELEASE

Arthritis Therapy That Checks Out.

- ☒ Gastric distress is reduced. pH-dependent matrix virtually doesn't release in acidic stomach.
- ☒ ZORprin[®] (aspirin) is released in the alkaline environment of the small intestine.
- ☒ Zero-order release delivers drug at a constant rate, reducing serum peaks and valleys.



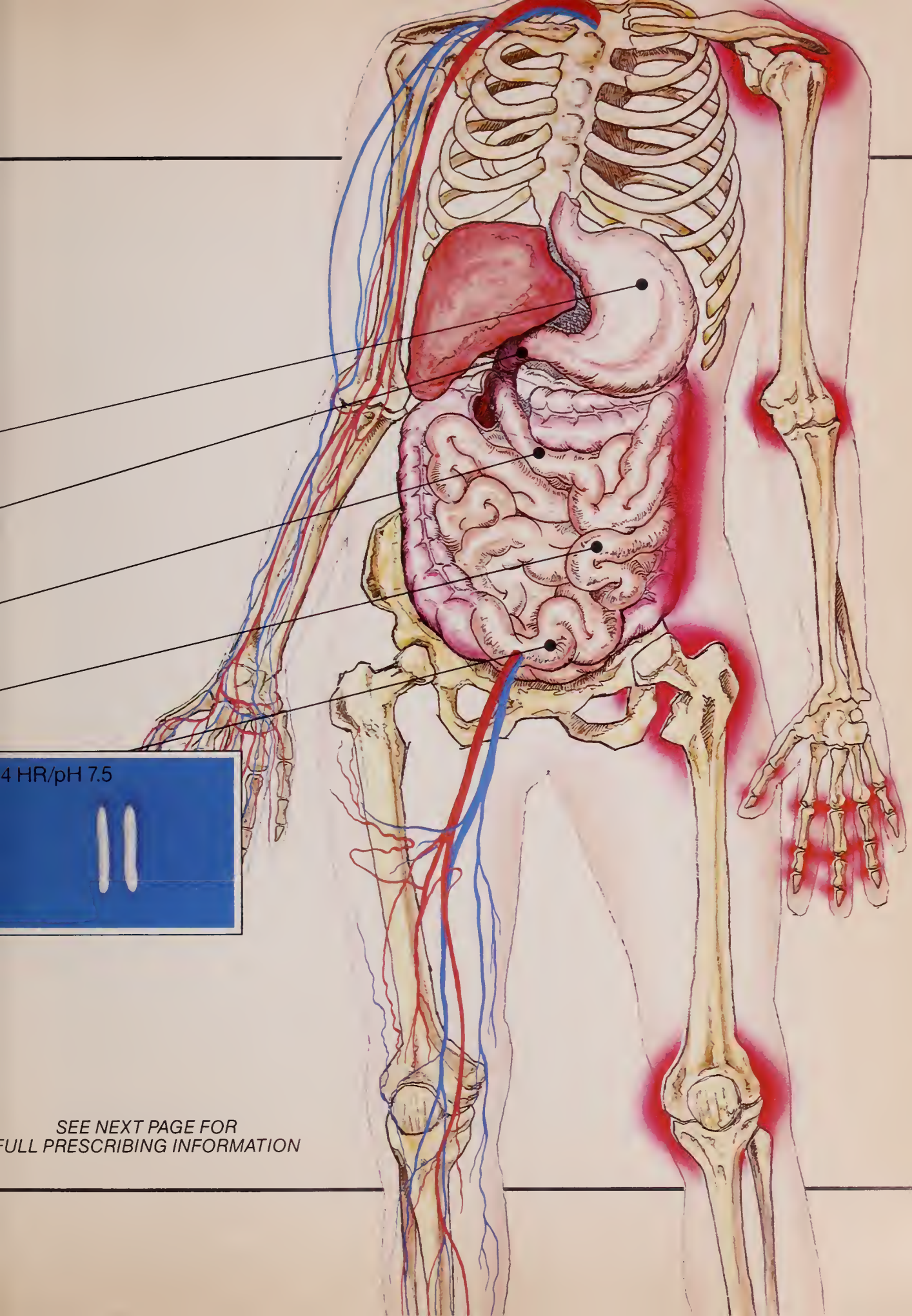
- ☒ Convenient b.i.d. dosage...enhances patient compliance.
- ☒ Economical...comparable efficacy and safety as other NSAIDs, yet costs approximately one-half as much.
- ☒ Your first step in arthritis therapy... **ZORprin[®]** (ASPIRIN) Zero-Order Release.

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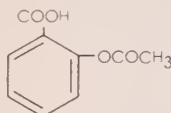
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SEE NEXT PAGE FOR
FULL PRESCRIBING INFORMATION

ZORprin (ASPIRIN) Zero-Order Release

DESCRIPTION: Each capsule-shaped tablet of Zorprin contains 800 mg of aspirin, formulated in a special matrix to control the release of aspirin after ingestion. The controlled availability of aspirin provided by Zorprin approximates zero-order release, the *in vitro* release of aspirin from the tablet matrix is linear and independent of the concentration of the drug. **CLINICAL PHARMACOLOGY:** Aspirin, as contained in Zorprin, is a salicylate that has demonstrated anti-inflammatory and analgesic activity. Its mode of action as an anti-inflammatory and analgesic agent may be due to the inhibition of synthesis of prostaglandins, although its exact mode of action is not known. \square Zorprin dissolution is pH-dependent. *In vitro* studies have shown very little aspirin to be released in acidic solutions, whereas, Zorprin releases the majority of its aspirin (90%) in a zero-order mode at a neutral to alkaline pH. It is this pH dependence of Zorprin that reduces direct contact between aspirin and the gastric mucosa, resulting in a reduction of its gastrointestinal side-effect potential. \square Bioavailability data for Zorprin have confirmed that plasma levels of salicylic acid and acetylsalicylic acid can be measured 24 hours after a single oral dose. This substantiates a twice daily dose regimen. Multiple dose bioavailability studies showed similar steady-state salicylate levels for Zorprin as for conventional release aspirin using the same total daily dose. Long-term monitoring of salicylate levels showed no signs of accumulation once steady-state levels were reached (4-6 days). \square Studies of *in vivo* prostaglandin levels (PGE2) have shown Zorprin plasma levels of salicylic acid and acetylsalicylic acid to reduce PGE2 levels 14 hours after a single oral 800 mg dose while an equivalent dose of aspirin produced a reduction of PGE2 levels only through six hours. Zorprin's effect on prostaglandins other than PGE2 has not been determined. \square Salicylates are excreted mainly by the kidney, and from studies in humans it appears that salicylate is excreted in the urine as free salicylic acid (10%); salicyluric acid (75%); salicylic phenolic (10%); acyl glucuronides (5%) and gentisic acid (<1%). **INDICATIONS & USAGE:** Zorprin is indicated for the treatment of rheumatoid arthritis and osteoarthritis. The safety and efficacy of Zorprin have

The structural formula of aspirin is:



not been established in those rheumatoid arthritis patients who are designated by the American Rheumatism Association as Functional Class IV (incapacitated, largely or wholly bedridden, or confined to wheelchair, little or no self-care). \square In patients treated with Zorprin for rheumatoid arthritis and osteoarthritis, the anti-inflammatory action of Zorprin has been shown by reduction in pain, morning stiffness and disease activity as assessed by both the investigators and patients. \square In clinical studies in patients with rheumatoid arthritis and osteoarthritis, Zorprin has been shown to be comparable to conventional release aspirin in controlling the aforementioned signs and symptoms of disease activity and to be associated with a statistically significant reduction in the milder gastrointestinal side effects (see ADVERSE REACTIONS). Zorprin may be well tolerated in some patients who have had gastrointestinal side effects with conventional release aspirin, but these patients when treated with Zorprin should be carefully followed for signs and symptoms of gastrointestinal bleeding and ulceration. \square Since there have been no controlled trials to demonstrate whether or not there is any beneficial effect or harmful interaction with the use of Zorprin in conjunction with other nonsteroidal anti-inflammatory agents (NSAI), the combination cannot be recommended (see Drug Interactions). **Because of its relatively long onset of action, Zorprin is not recommended for antipyresis or for short-term analgesia.** **CONTRAINDICATIONS:** Zorprin should not be used in patients known to be hypersensitive to salicylates or in individuals with the syndrome of nasal polyps, angioedema, bronchospastic reactivity to aspirin, renal or hepatic insufficiency, hypoprothrombinemia or other bleeding disorders. Zorprin is not recommended for children under 12 years of age, it is contraindicated in all children with fever accompanied by dehydration. **WARNINGS:** Zorprin should be used with caution when anticoagulants are prescribed concurrently, since aspirin may depress platelet aggregation and increase bleeding time. Large doses of salicylates may have hypoglycemic action and enhance the effect of the oral hypoglycemics, concomitant use therefore is not recommended. However, if such use is necessary, dosage of the hypoglycemic agent must be reduced. The hypoglycemic action of the salicylates may also necessitate adjustment of the insulin requirements of diabetics. \square While salicylates in large doses have a uricosuric effect, smaller amounts may reduce water excretion and increase serum uric acid. **USE IN PREGNANCY:** Aspirin can harm the fetus when administered to pregnant women. Aspirin interferes with maternal and infant homeostasis and may lengthen the duration of pregnancy and parturition. Aspirin has produced teratogenic effects and increases the incidence of stillbirths and neonatal deaths in animals. \square If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus. \square Aspirin should not be taken during the last 3 months of pregnancy. **PRECAUTIONS:** Appropriate precautions should be taken in prescribing Zorprin for patients who are known to be sensitive to aspirin or salicylates. Particular care should be used when prescribing this medication for patients with erosive gastritis, peptic ulcer, mild diabetes or gout. As with all salicylate drugs, caution should be exercised in prescribing Zorprin for those patients with bleeding tendencies or those on anticoagulants. \square In order to avoid exacerbation of disease or adrenal insufficiency, patients who have been on prolonged corticosteroid therapy should have their therapy tapered slowly rather than discontinued abruptly when Zorprin is made a part of the treatment program. \square Patients receiving large doses of aspirin and/or prolonged therapy may develop mild salicylate intoxication (salicylism) that may be reversed by dosage reduction. \square Salicylates can produce changes in thyroid function tests. \square Salicylates should be used with caution in patients with severe hepatic damage, preexisting hypoprothrombinemia, Vitamin K deficiency and in those undergoing surgery. \square Since aspirin release from Zorprin is pH dependent, it may change in those conditions where the gastric pH has been increased as a result of antacids, gastric secretion inhibitors or surgical procedures. **Drug Interactions:** (See WARNINGS) Aspirin may interfere with some anticoagulant and antidiabetic drugs. Drugs which lower serum uric acid by increasing uric acid excretion (uricosurics) may be antagonized by the concomitant use of aspirin, particularly in doses less than 2.0 grams/day. Nonsteroidal anti-inflammatory drugs may be competitively displaced from their albumin binding sites by aspirin. This effect may negate the clinical efficacy of both drugs. Also, the gastrointestinal inflammatory potential of nonsteroidal anti-inflammatory drugs may be potentiated by aspirin. The combination of alcohol and aspirin may increase the risk of gastrointestinal bleeding. \square Aspirin may enhance the activity of methotrexate and increase its toxicity. \square Sodium excretion produced by spironolactone may be decreased in the presence of salicylates. Concomitant administration of other anti-inflammatory drugs may increase the risk of gastrointestinal ulceration. Urinary alkalinizers decrease aspirin's effectiveness by increasing the rate of salicylate renal excretion. Phenobarbital decreases aspirin's effectiveness by enzyme induction. **Pregnancy Category D.** See WARNINGS Section. **Nursing Mothers:** Salicylates have been detected in the breast milk of nursing mothers. Because of the potential for serious adverse reactions from aspirin in nursing infants, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the benefit of the drug to the mother. **ADVERSE REACTIONS: Hematologic:** Aspirin interferes with hemostasis. Patients with a history of blood coagulation defects or receiving anti-coagulant drugs or with severe anemia should avoid Zorprin. Aspirin used chronically may cause a persistent iron deficiency anemia. **Gastrointestinal:** Aspirin may potentiate peptic ulcer, and cause stomach distress or heartburn. Aspirin can cause an increase in occult bleeding and in some patients massive gastrointestinal bleeding. However, the greatest release of active drug from Zorprin is designed to occur in the small intestine over a period of time. This has resulted in fewer symptomatic gastrointestinal side effects. **Allergic:** Allergic and anaphylactic reactions have been noted when hypersensitive individuals have taken aspirin. Fatal anaphylactic shock, while not common, has been reported. **Respiratory:** Aspirin intolerance, manifested by exacerbations of bronchospasm and rhinitis, may occur in patients with a history of nasal polyps, asthma, or rhinitis. The mechanism of this intolerance is unknown but may be the result of aspirin-induced shunting of prostaglandin synthesis to the lipoxigenase pathway and the liberation of leukotrienes, e.g. slow-reacting substance of anaphylaxis. **Dermatologic:** Hives, rashes, and angioedema may occur, especially in patients suffering from chronic urticaria. **Central Nervous System:** Taken in overdoses, aspirin provides stimulation which may be manifested by tinnitus. Following initial stimulation, depression of the central nervous system may be noted. **Renal:** Aspirin rarely may aggravate chronic kidney disease. **Hepatic:** High doses of aspirin have been reported to produce reversible hepatic dysfunction. **OVERDOSAGE:** Overdosage, if it occurs, would produce the usual symptoms of salicylism: tinnitus, vertigo, headache, confusion, drowsiness, sweating, hyperventilation, vomiting or diarrhea. Plasma salicylate levels in adults may range from 50 to 80 mg/dl in the mildly intoxicated patient to 110 to 160 mg/dl in the severely intoxicated patient. An arterial blood pH of 7.1 may indicate serious poisoning. The clearance of salicylates in children is much slower than adults and should receive due consideration when aspirin overdoses occur in infants, salicylate half-lives of 30 hours have been reported in infants 4-8 months old. Treatment for mild intoxication should include emptying the stomach with an emetic, or gastric lavage with 5% sodium bicarbonate. Individuals suffering from severe intoxication should, in addition, have forced diuresis by intravenous infusions of sodium bicarbonate and dextrose or sodium lactate. In extreme cases, hemodialysis or peritoneal dialysis may be required. \square (A plasma salicylate level of 160 mg/dl in an adult is usually considered lethal.) **DOSEAGE & ADMINISTRATION:** In order to achieve a zero-order release, the tablets of Zorprin should be swallowed intact. \square Breaking the tablets or disrupting the structure will alter the release profile of the drug. \square It is recommended that Zorprin be taken with sufficient quantities of fluids (8 oz. or more). **Adult Dosage:** For mild to moderate pain associated with rheumatoid arthritis and osteoarthritis, the recommended initial dose of Zorprin is 1600 mg (2-800 mg tablets) twice a day. Because of Zorprin's prolonged release of aspirin into the bloodstream, Zorprin tablets may be taken as a b.i.d. dose. Further adjustment of the dosage should be determined by the physician, based upon the patient's response and needs. Since it will take 4-6 days to reach steady-state levels of salicylic acid with Zorprin, it is recommended dosages be given for at least one week before further adjustment. In general, patients with rheumatoid arthritis seem to require higher doses of Zorprin than do patients with osteoarthritis. **Zorprin is not recommended for children below the age of 12.** **HOW SUPPLIED: Zorprin Tablets 800 mg:** plain, white capsule-shaped tablets. \square Bottles of 100 Tablets — NDC 0524-0057-01. **Caution:** Federal law prohibits dispensing without prescription. \square U.S. Patent No. 4,308,251. **Manufactured and Distributed by: BOOTS PHARMACEUTICALS, INC., Shreveport, Louisiana 71106 U.S.A.**

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Political Action: Brown Bags or Grass Roots?

As society changes, so must its institutions and organizations. As professions change, so must their relationships with those they serve. Failure to respond effectively to the mandates for change yields to a single certain fate: dissolution.

Surely no rational member of our society and no competent member of our profession can believe that the practice of medicine has not undergone revolutionary changes in the past twenty-five years and, in the coming twenty-five years, will change even more. The forces of acceleration will transform the incredible to the prosaic. A generation of yesterday's changes will be surpassed in less than the decade which begins tomorrow.

The manner in which we practice medicine, the style we employ in dealing with patients, and the results of our efforts have changed rapidly and fairly successfully. Unfortunately, the same cannot be said of our organizations.

Our image as a profession, our political effectiveness, and our ability to influence the destiny of medical care have suffered serious, possibly mortal losses. Such issues are the appropriate — if not the primary — objectives of our professional organizations, and it is painfully clear that none of these objectives is being achieved. In fact, our organizations are rapidly approaching total impotency in these endeavors. In some cases, an endorsement from our organizations serves to defeat the proposition it intended to promote.

Perhaps this sad state of affairs indicates that we have failed to enact effective changes in the structure, operation, and objectives of our professional organizations.

In this age of consumerism, we must expend more energy and spend more dollars in efforts to inform our patients of the effects of nonphysician-directed changes in medical care; how their needs and opinions are being ignored, how their welfare is being jeopardized, how their dollars are being wasted, and how their nation is approaching bankruptcy as a

result of the bureaucratic conquest of medical care.

We must devote more time and spend more money in efforts to acquaint our patients with our organizations; what they are, what they do, and how they function. We must establish challenging alternatives to the media-promoted defamation of physicians and physician organizations. We must design and support programs through which we can demonstrate our collective concerns, our sincerity, our integrity, our professionalism, and our candor.

As a beginning, our state association should create a council of lay advisors and make it a part, in fact and function, of OSMA. Appointments to this council would be made by our component societies and would exclude, insofar as possible, persons in elected positions, government employees, and all individuals (and their families) employed in any of the health care professions.

Members of the lay advisory council would become working members, without votes but with full floor privileges, of OSMA, its committees, councils, and governing bodies. Their number, terms of service, and internal organization would be determined by a committee established by our House of Delegates.

Such an undertaking would require the expenditure of an appreciable number of dollars, but — possibly — not new dollars. Money now being spent with manifest ineffectiveness and for dubiously virtuous purposes could be diverted from the brown bags presently being used to prime pumps in scores of dry holes, to this grass roots project.

Our grass roots might not yet be dead even though our political pastures have been barren deserts for years. If it is too late to save our grass roots, our organizations will soon disappear and the profession of medicine, as an entity, will vanish from our society.

But who knows? If the idea catches on, if the grass roots respond to our nurturing, even our AMA might decide to establish a council of lay advisors.

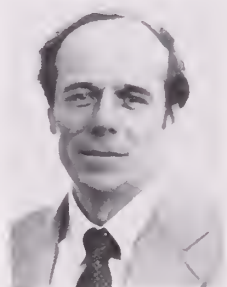
The brown bags we've sent to Washington have not produced green pastures; the grass roots might.

—MRJ

Is this a good thing to do?

There are some things in life which are quite simply, and perhaps irrationally, good things to do.

Certainly, long lists can be made by the analysts, prophets, and pessimists about why it is no longer a good thing to encourage your children to attend medical school or contemplate practicing medicine in future years. And, just as certainly, we are surrounded by an abundance of problems and even harassments. The encroachment of governmental, legislative, and regulatory bodies at every level of the practice of medicine; the complex difficulties in health care cost management; the many philosophic and social problems involved in the interaction



of technology and human life; the inherent inexactness of the marvelous biologic system of the human body; and the changing interests of hospitals and their physician staffs pose a powerful array of challenges.

Nevertheless, I firmly believe the greatest rewards of medical practice cannot be taxed, categorized in a DRG, or stamped with approval by a PRO. The truly meaningful rewards of being a physician are those intangibles felt at the patient's bedside, in the physician's office, in the operating room, and in the delivery room.

These are the true rewards of the difficult learning experiences of medical school, residency, and medical practice itself. These rewards make the practice of medicine simply, but most meaningfully, a good thing to do.

George H. Kamp, M.D.

Comparison of In Vitro Activity of Cefotaxime with Other Commonly Used Antimicrobial Agents

S. M. HUSSAIN QADRI, PhD
STEVE JOHNSON

Cefotaxime, a third-generation cephalosporin, exhibited excellent in vitro activity against the Enterobacteriaceae and *Staphylococcus aureus*, which would help the attending physician in determining effective and reliable therapy against these organisms.

Cefotaxime is a new methoxyimino derivative of 7-aminocephalosporanic acid that demonstrates a marked resistance to many beta-lactamases. We tested 1,634 isolates from clinical specimens to determine the in vitro activity of this cephalosporin and compared it with commonly used antimicrobial agents. The organisms used in this investigation consisted of *Escherichia coli*, *Enterobacter aerogenes*, *E agglomerans*, *E cloacae*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Providencia rettgeri*, *P vulgaris*, *P morganii*, *Citrobacter diversus*, *C freundii*, *Pseudomonas aeruginosa*, *P maltophilia*, *P fluorescens*, *Serratia marcescens*, *Staphylococcus aureus*, *Streptococcus pneu-*

moniae, and group B and group D streptococci. Of the 1,104 members of Enterobacteriaceae tested, 1,072 (97%) were susceptible to cefotaxime. Ninety-eight percent of the strains of *S aureus* were also sensitive to cefotaxime. The antibiotic was highly effective against pneumococci and group B streptococci, but not enterococci. *P aeruginosa* strains were moderately sensitive and *P fluorescens* were highly susceptible, but none of the four strains of *P maltophilia* were inhibited by cefotaxime. It was found to be more effective than first-generation cephalosporin, ampicillin, and carbenicillin and comparable to gentamicin and tobramycin. Amikacin was the only aminoglycoside that demonstrated better in vitro sensitivities than cefotaxime.

Introduction

Cefotaxime is a new third-generation semi-synthetic broad-spectrum α -methoxyimino cephalosporin that exhibits activity against a wide group of medically important bacteria. Since 1977 this cephalosporin has been studied extensively to determine its efficacy in the treatment of infections caused by both gram-negative and gram-positive bacteria. In vitro

Cefotaxime (continued)

studies have shown it to have remarkable activity against all the members of Enterobacteriaceae that have exhibited resistance to earlier first- and second-generation cephalosporins. Several reports have compared the activity of cefotaxime with other cephalosporins using bacteria isolated from clinical specimens from various parts of the United States and across the world.^{1,5,9,11,12,16,18,19}

In this paper we report the cefotaxime susceptibility patterns of 1,634 clinical isolates in a major teaching hospital in Oklahoma, and their comparison with other antibiotics that are commonly used in the community.

Materials and Methods

Antimicrobial Agents. Agar diffusion tests were performed using commercially prepared antibiotic discs (Difco Laboratories, Detroit). Cefotaxime (30 µg) discs were obtained from Hoechst-Roussel (Somerville, NJ). The antibiotic content of the discs was 10 µg for ampicillin, colistin, gentamicin, and tobramycin; 15 µg for erythromycin; 30 µg for amikacin, cephalothin, chloramphenicol, tetracycline, and vancomycin; 1.23 µg, 23.75 µg for tri-

methoprim sulfamethoxazole; 10 units for penicillin G; 100 µg for carbenicillin; and 5 µg for methicillin. The disc contents used are those recommended by the National Committee for Clinical Laboratory Standards (1981) for which interpretive data have been established.

Bacteria. 1,634 isolates from clinical specimens were tested over a six-month period at Oklahoma Memorial Hospital, a 400-bed general medical and surgical hospital for adults which serves as a primary teaching institution for the University of Oklahoma Health Sciences Center. Microorganisms were identified by conventional methods described in the *Manual of Clinical Microbiology*.¹⁰ These bacteria consisted of 1,104 strains of Enterobacteriaceae, 144 strains of *P. aeruginosa*, 212 strains of *S. aureus*, and 161 *Streptococcus* species. The isolates were obtained from blood cultures, respiratory cultures, urines, wounds, and miscellaneous sources.

Susceptibility Testing. Antibiotic disc susceptibility testing was performed according to the procedure described by the National Committee for Clinical Laboratory Standards (1981). Microorganisms were considered susceptible to cefotaxime if the zone size was equal to or greater than 23 mm. Quality control or-

Table 1.—Susceptibility of Enterobacteriaceae and *Pseudomonas* to Cefotaxime and Other Commonly Used Antimicrobial Agents

Organisms	Total Isolates	Percent Susceptible										
		AM	AN	CB	CR	CTx	C	GM	Nitro	TE	TM	SxT
<i>Citrobacter diversus</i>	6	17	100	17	100	100	100	100	100	67	100	100
<i>C. freundii</i>	20	50	100	80	55	100	100	100	100	90	100	100
<i>Enterobacter aerogenes</i>	29	20	100	90	03	97	86	100	100	79	90	100
<i>E. agglomerans</i>	16	06	94	94	06	75	62	94	50	81	94	100
<i>E. cloacae</i>	68	16	100	91	04	97	97	97	100	79	97	100
<i>Escherichia coli</i>	570	70	100	74	86	98	94	99	99	80	99	98
<i>Klebsiella pneumoniae</i>	210	05	100	06	90	100	88	97	82	81	97	93
<i>Proteus mirabilis</i>	109	89	100	95	93	100	87	95	06	0	95	84
<i>P. rettgeri</i>	15	40	100	100	06	100	60	93	33	27	93	100
<i>P. morganii</i>	15	40	100	100	06	100	60	93	33	27	93	100
<i>P. vulgaris</i>	11	27	100	100	18	100	91	100	100	55	100	100
<i>Serratia marcescens</i>	50	12	90	60	0	84	58	76	0	06	62	50
<i>Pseudomonas aeruginosa</i>	144	0	97	94	0	46	03	85	05	03	93	05
<i>Ps. fluorescens</i>	6	0	100	83	0	83	50	100	0	33	100	100
<i>Ps. maltophilia</i>	4	0	50	50	0	0	75	50	—	0	50	—

AM = ampicillin, AN = amikacin, CB = carbenicillin, CR = cephalothin, CTx = cefotaxime, C = chloramphenicol, GM = gentamicin, TE = tetracycline, TM = tobramycin, Nitro = nitrofurantoin, SxT = trimethoprim sulfamethoxazole.

Table 2. Susceptibility of Gram-Positive Bacteria to Cefotaxime and Other Commonly Used Antibiotics

Organisms	Total Isolates	Percent Susceptible										
		AM	AN	CR	CTx	C	CL	E	GM	ME	P	TE
<i>S aureus</i>	215	10	100	99	98	100	99	94	99	99	10	89
Group D enterococcus	119	100	0	13	05	94	0	69	82	0	07	20
<i>Streptococcus pneumoniae</i>	4	100	100	100	100	100	100	100	100	100	100	100
Group B streptococci	38	100	02	100	97	100	100	95	02	100	100	05

AM = ampicillin, AN = amikacin, CR = cephalothin, CTx = cefotaxime, C = chloramphenicol, CL = clindamycin, E = erythromycin, GM = gentamicin, ME = methicillin, P = penicillin, TE = tetracycline.

ganisms included in daily testing were *E coli* ATCC 25922, *S aureus* ATCC 25923, and *P aeruginosa* ATCC 27853. Mueller-Hinton agar (Difco, Detroit), with a pH between 7.2 and 7.4, was used in the tests. The susceptibility plates were incubated for 18 to 24 hours at 35°C.

Results

A total of 1,634 isolates from clinical specimens at Oklahoma Memorial Hospital were tested in vitro by the disc diffusion test to determine the susceptibility of these bacteria to cefotaxime and other routinely used antimicrobial agents. Thirty-five percent of these bacteria were isolated from urine, 14% from the respiratory tract, 7% from the genitalia, 5% from blood, and the rest from body fluids, wounds, tissues, and abscesses. The results of susceptibility testing against aerobic and facultative gram-negative bacteria are shown in Table 1. Of the 1,104 members of Enterobacteriaceae tested, 1,072 (97%) were susceptible to cefotaxime, whereas only 805 (73%) were inhibited by first-generation cephalosporins. Gentamicin, tobramycin, and sulfamethoxazole were comparable, and only amikacin (99.4%) was more inhibitory than cefotaxime.

Only three species of pseudomonads were tested. Forty-six percent of the strains of *P aeruginosa*, 83% of *P fluorescens*, and none of the four isolates of *P maltophilia* were inhibited by cefotaxime. Carbenicillin and all the aminoglycosides were found to be more effective against the three *Pseudomonas* species used.

Of the 215 isolates of *S aureus* tested, 211 (98%) were sensitive to cefotaxime, which was comparable to all the antimicrobial agents used except ampicillin and penicillin, both of

which were ineffective (Table 2). Cefotaxime was ineffective against group D streptococci, inhibiting only 6 (5%) of the 119 organisms tested, but was highly inhibitory towards pneumococci and Lancefield group B streptococci.

Discussion

In vitro susceptibility testing of antimicrobial agents is important in instituting, modifying, and changing the administration of effective therapeutic antimicrobial agents in the treatment of infections caused by antibiotic-sensitive microorganisms. In most cases the results of in vitro tests correlate well with the clinical response, and this has been true with cefotaxime. Thornsberry, Jones, Barry, and Fuchs¹⁷ examined the bacteriological outcome of infection in 1,440 patients treated with cefotaxime and reported that the results of disc diffusion tests correlated well with clinical response, with a microbial cure rate of 89% for the susceptible isolates. They further noted, however, that there was a lack of correlation between disc susceptibility and bacteriological response in only one group of organisms, namely pseudomonads.

During this investigation, cefotaxime was found to be highly effective against members of Enterobacteriaceae, inhibiting 97% of the 1,104 isolates tested. This finding is consistent with an earlier report by Jones and Thornsberry⁸ who summarized the results of 76 publications and found that about 98% of 156,742 isolates were susceptible to cefotaxime. At Oklahoma Memorial Hospital, the only two members of Enterobacteriaceae that showed an overall resistance of >15% consisted of *S marcescens* and *E agglomerans*. *P*

Cefotaxime (continued)

aeruginosa was found to be less susceptible to cefotaxime than Enterobacteriaceae. However, the antibiotic is superior to first- and second-generation cephalosporins.

Woolfrey, Fox, and Quall²⁰ had found cefoperazone to be more active against *P aeruginosa*. Perryman, Flournoy, and Qadri¹⁴ reported that 88% of *P aeruginosa* at Oklahoma Memorial Hospital were susceptible to moxalactam, as compared to 46% susceptibility rate in the present study for cefotaxime. However, in other parts of the country the susceptibility rate has been found to be comparable to that of moxalactam and ticarcillin and inferior to piperacillin, cefsuladin, and ceftazidime.^{3, 4, 5, 6, 9, 15}

S aureus, pneumococci, and group B streptococci were highly susceptible to cefotaxime, which inhibited over 98% of the isolates tested. Jones and Thornsberry⁸ observed a similar pattern in their compilation of results that contained in vitro studies on 2,501 isolates of *S aureus* and 13 isolates of pneumococci. They noted that cefotaxime had a minimal activity against 849 isolates of enterococci. We found that only 5% of the 119 strains of enterococci were susceptible to cefotaxime. However, these findings are consistent and comparable with other cephalosporins. At Oklahoma Memorial Hospital, 4% of the isolates were sensitive to moxalactam and 8% to 13% to cephalothin.¹⁴

Members of Enterobacteriaceae and *S aureus* constitute a great majority of organisms that are implicated in clinical disease. Cefotaxime was highly effective against these organisms and thus appears to be a reliable drug. Its remarkable effectiveness seems to be the result of a combination of factors that include beta-lactamase stability, strong affinity for lethal penicillin-binding proteins, and ability to penetrate the bacterial cell membrane and gain access to target sites.^{2, 8, 13} □

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Pathology Department, Oklahoma Memorial Hospital, PO Box 26307, Oklahoma City, Oklahoma 73126.

S.M.H. Qadri, PhD, was graduated from the University of Texas at Austin in 1968. He is a Diplomate of the American Board of Medical Microbiology and a Fellow of American Academy of Microbiology. Dr Qadri is presently a fulltime associate professor of pathology at the University of Oklahoma Health Sciences Center and Director of Microbiology and Serology Laboratories at Oklahoma Memorial Hospital, Oklahoma City, Oklahoma.

Steve Johnson, BS, MT (ASCP) was graduated from the University of Oklahoma Health Sciences Center in 1976. He is currently the supervisor of Microbiology and Serology Laboratories at Oklahoma Memorial Hospital, Oklahoma City, Oklahoma.

Internal Mammary Lymphoscintigraphy in Patients with Breast Cancer

STEPHEN LEE, MD
JAY A. HAROLDS, MD

The spread of breast cancer to regional lymphatics has traditionally been assessed by clinical evaluation of axillary nodes. Now the internal mammary lymphatics can be accurately included in this assessment with the use of a new, relatively noninvasive procedure which may have important implications for breast cancer patients.

Breast cancer typically spreads via regional lymphatics to involve axillary or parasternal lymph nodes. Until recently, there has been no reliable, noninvasive technique to assess the status of the internal mammary chain of lymph nodes.¹ Therefore, staging, treatment, and prognosis have traditionally been based on the clinical and histologic evaluation of axillary nodes, with little attention focused on the internal mammary nodes.²

Internal mammary lymphoscintigraphy is an essentially noninvasive radionuclide study that has been used at certain major cancer cen-

ters in the US and Canada in recent years to determine the location and extent of involvement of the internal mammary chain of lymph nodes. This procedure, which may have a potentially important impact on the treatment and ultimate prognosis of patients with breast cancer, is new to the medical community of Oklahoma. The technique of internal mammary lymphoscintigraphy, some of the more salient features of interpretation, and the clinical applications will be discussed in this article. The findings of our first three lymphoscintigrams will help illustrate the importance of this procedure.

Method of Examination

Radiocolloids injected into the posterior rectus sheath will demonstrate the internal mammary lymphatics. Technetium 99m antimony trisulfide colloid is the preferred radionuclide due to its stability and the efficiency of its uptake by regional lymphatics.³ Technetium 99m injected into subcutaneous tissue flows through lymphatic channels and is phagocytized by macrophages in lymph nodes. This is the mechanism responsible for the image seen in lymphoscintigraphy.⁴ It is introduced below

Lymphoscintigraphy (continued)

the costal margin approximately 2 cm lateral to the midline on the same side as the affected breast. This is accomplished with a 22- or 25-gauge needle which is guided at a 60° angle to the horizontal plane while aiming toward the ipsilateral axilla. The radionuclide is injected when the resistance of the posterior rectus sheath is detected. This resistance is greater than the resistance of the anterior rectus sheath. The injection usually produces only minimal transient pain.

With a successful injection, the radionuclide will be localized and separated from the skin markers on a lateral view. However, approximately 3% of properly performed injections will display no nodal uptake. This is apparently due to normal anatomic variations in the parasternal lymphatics. If the injection is too deep and radionuclide enters the peritoneal cavity, the initial image will show diffuse spread over the entire abdomen. In the literature reviewed, there were no reports of side effects with intraperitoneal injection. Con-



Figure 1. — The internal mammary lymph node chains are well delineated bilaterally. They extend up from the injection sites which are visualized as the two larger collections of radionuclide.

versely, a superficial injection is indicated by the confluence of injected activity with the skin markers. Visualization of axillary lymphatics or the absence of any demonstrable lymphatic uptake provides further evidence of a superficial injection.⁵

An image is obtained three hours after the initial injection. The contralateral side is then injected in a similar manner and a final image is obtained three hours later. Injection of both sides provides for more reliable demonstration of drainage patterns. Lymphoscintigraphy performed in over 1,200 patients at one hospital in Canada resulted in only two hematomas which resolved without treatment. No other major complications or side effects have been reported.⁶

Case Number One

A 48-year-old female discovered a 2 cm lump in her right breast just inferior to the areola. Biopsy revealed a poorly differentiated infiltrating ductal carcinoma. She underwent a right modified radical mastectomy. The axillary dissection revealed 13 lymph nodes, all of which were free of carcinoma. There was, however, intramammary lymphatic invasion evident at the time of surgery. Estrogen and progesterone receptors were positive. Chest x-rays and bone scan showed no evidence for metastatic disease. Lymphoscintigraphy was performed four weeks after surgery. The internal mammary chains were well delineated bilaterally with no evidence of tumor involvement (Fig 1).

Case Number Two

A 25-year-old female found a 2 cm mass by self-examination in the upper inner quadrant of her right breast. Biopsy revealed the presence of carcinoma, and a right total mastectomy was performed. Histologically, the tumor was a high grade anaplastic invasive ductal carcinoma. There was no axillary nodal involvement, and bone scan and chest x-ray showed no signs of metastatic spread. Estrogen and progesterone receptors were negative.

Lymphoscintigraphy performed six weeks after surgery, however, was abnormal. Only a solitary diaphragmatic node was visualized three hours after injection. This indicated the site of injection was correct. The non-visualization of the remainder of the right parasternal lymph nodes may have indicated

Case Number Three

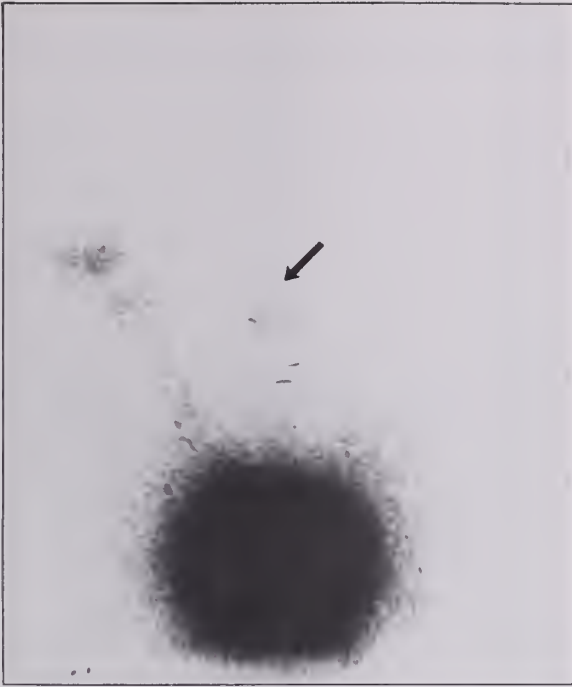


Figure 2. — A diaphragmatic node is visualized after the initial injection (arrow). This indicates the injection was properly performed. Following a second injection, the radionuclide extends obliquely toward the right axilla. This could represent tumor infiltration of the internal mammary nodes, or it could indicate that the second injection was too superficial.

tumor involvement of the ipsilateral internal mammary lymphatics. Less likely explanations for this abnormality included the interruption of fine lymphatic channels at the time of surgery or blockage of uptake by post-surgical "debris" accumulating within lymph node macrophages.⁷ Usually, however, the pattern reverts to normal within three weeks after surgery.⁶

A second injection showed a chain of lymphatics extending obliquely toward the axillary (Fig 2). This may be the result with injections that are too superficial or too far lateral. This could also represent obstruction of the normal lymphatic pathways with alternate flow through collaterals in the subpectoral lymphatics.⁵ The integrity of the parasternal lymphatic system, therefore, remained in doubt. The injection on the left side was apparently inadequate since there was no uptake in any of the parasternal lymphatics. A follow-up study in 90 days was recommended. If the abnormality persists at that time, it is almost certain to be due to tumor infiltration and not a postsurgical effect. Incidentally, repeat studies within one week of the initial injection are often unsuccessful due to saturation of the lymphatics by the colloid.

A 42-year-old female presented with a readily palpable 1 cm mass in the extreme medial aspect of her right breast. Biopsy revealed carcinoma, and a segmental resection of the right breast with axillary dissection was performed. The tumor was an infiltrating ductal carcinoma with chest wall involvement. There was no involvement of the axillary nodes. Chest x-ray, CT scan of the head, and bone scan revealed no evidence of metastatic disease. Estrogen receptors were positive.

Lymphoscintigraphy displayed a lymphatic drainage pattern most compatible with cross-over from the right side to the left (Fig 3). The lymphatic pathways frequently cross over to the contralateral side. This cross-drainage occurs in 18% of patients and may occur at xiphisternal, substernal, and submanubrial levels.⁷ In many cases, cross-drainage is a manifestation of obstruction of ipsilateral nodes by tumor infiltration. The obstruction redirects lymph flow along an alternate pathway through pre-existing channels.⁵ In this particular case, however, the cross-drainage was thought to be a normal variant. The absence of the right upper internal mammary nodes could conceivably be explained by tumor involvement of this region, but there were no other associated abnormalities which commonly accompany tumor infiltration of lymph nodes. These abnormalities include decreased uptake of one or more nodes, poor definition of nodal boundaries, and an interstitial "blush" of activity outside the nodes created by a distal obstruction to lymph flow.

Demonstration of cross-drainage patterns also helps delineate the pathways of metastatic spread to the contralateral side. Therefore, therapy is often altered to fit the particular drainage pattern. This patient's radiation fields were expanded to include the identified contralateral nodes.

Discussion

Of the three cases presented, two were potentially influenced by the results of lymphoscintigraphy. The findings in case number two were somewhat equivocal, but they still resulted in the consideration of possible tumor involvement of the right upper internal mammary chain. Lymphoscintigraphy provides the mechanism for the exploration of this possibil-

Lymphoscintigraphy (continued)

ity. If a repeat lymphoscintigram suggests tumor infiltration of these nodes, the prognosis and the therapy may be altered.

It is known that there is a poor correlation between the location of the tumor within the breast and the actual pathway of lymphatic spread.^{8,9} Furthermore, the lack of involvement of axillary nodes provides no assurance of the absence of lymphatic metastatic deposits elsewhere. This is evidenced by internal mammary node involvement in 18% of those patients with histologically negative axillary nodes. (In addition, 19% were reported as suspicious for involvement of the internal mammary chain.⁹) Therefore, diseased nodes may have been overlooked if internal mammary lymphoscintigraphy had not been performed.

The findings in case number three further illustrate the potential impact of lymphoscintigraphy. Here, the radiation fields were altered to include those nodes on the contralateral side that were identified by the cross-over pattern seen on the lymphoscintigram. These nodes were considered to be at risk for eventual tumor involvement since the drainage pathway from the affected breast included these nodes. Also, the possibility was raised that the cross-over pattern could represent tumor involvement of the upper ipsilateral internal mammary chain which may be blocking normal drainage patterns. If this is the case, the prognosis also will be changed.

Modifications in radiation fields have been necessary 30% of the time, and in one recent study, the radiation fields of 60% of the patients were altered due to information yielded by lymphoscintigraphy.¹⁻¹⁰ With better localization of the lymphatic chains, the portal size is frequently reduced, thereby sparing normal tissue. This becomes especially important when adriamycin is used in conjunction with radiation therapy. If the lymphatics are more accurately localized, the radiation fields can be more confined, thereby reducing the cardiotoxicity when these two modes of therapy are combined.

Lymphoscintigraphy can also be utilized as a baseline study to determine future abnormalities in the parasternal lymphatic chains. Likewise, the response to therapy can be followed by repeat examinations. There are also prognostic implications for lymphoscintigraphy. There is a 34% overall recurrence of

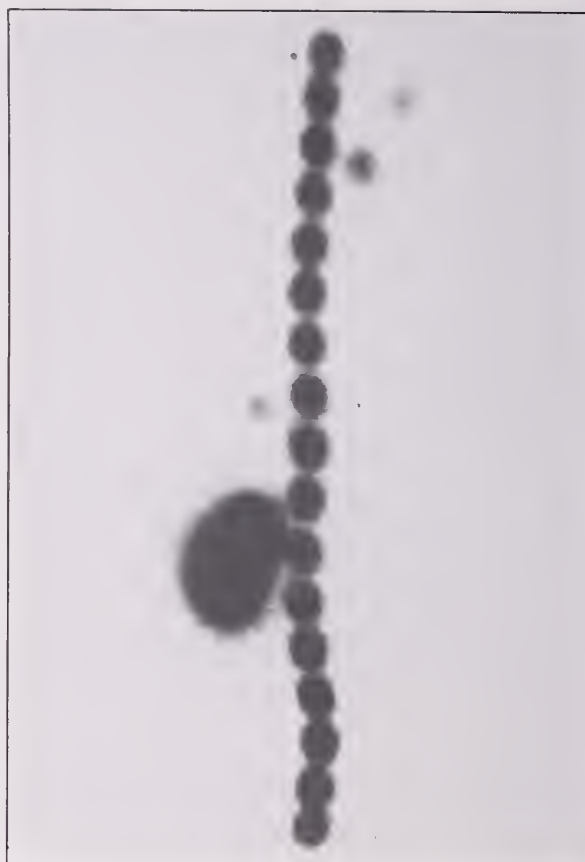


Figure 3. — The radionuclide flows from the initial injection site across the sternal midline markers from right to left. This cross-over pattern is most likely a normal variant, but it could conceivably represent tumor involvement of the right upper internal mammary chain.

breast cancer when the study is normal, but this rises to 67% when the lymphoscintigram is abnormal.¹¹ In addition, stage II disease with an abnormal internal mammary lymphoscintigram carries the same overall prognosis as stage III.⁸ In many major cancer centers, stage II disease with an abnormal lymphoscintigram is managed as stage III.

There is good correlation of lymphoscintigraphic findings with histologic findings at the time of surgery. Matsuo reports a 90% true positive rate and a 100% true negative rate in the preoperative evaluation of patients with breast cancer.¹² These findings are similar to those obtained in other studies by Ege.

Internal mammary lymphoscintigraphy is a safe, noninvasive method of accurately identifying metastatic involvement of the parasternal lymphatics by breast cancer. It is a useful adjunct in staging, and it carries important prognostic implications. It may influence the patient's therapy by revealing metastatic deposits that otherwise would have been over-

looked. Radiation fields can be more accurately localized so as to include nodes that may have been excluded with standard portals. Likewise, normal tissue can be spared by confining the radiation fields to the affected regions identified on the lymphoscintigram. Furthermore, lymphoscintigraphy may be used as a baseline study for the future evaluation of new lesions or for recurrence of disease following therapy. □

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Baptist Medical Center, Department of Nuclear Medicine, 3300 Northwest Expressway, Oklahoma City, Oklahoma 73112.

Stephen Lee, MD, is currently a resident in radiology at Baptist Medical Center in Oklahoma City. He was graduated from the University of Oklahoma College of Medicine in 1982.

Jay A. Harolds, MD, a 1971 graduate of the University of Buffalo School of Medicine in New York, is a specialist in radiology and nuclear medicine. He is certified in diagnostic radiology with special competence in nuclear radiology. Harolds is currently a member of the adjunct faculty at Oscar Rose Junior College in Oklahoma City and is a member of the Society of Nuclear Medicine, the Radiologic Society of North America, and the American College of Radiology.

Hearing (Physiology of Aging)

J. GAIL NEELY, MD

Aging has an effect throughout the auditory system, not just on the ear but also upon the central nervous system. Identification of the degree of lesion at each site is helpful in designing the treatment.

The Problem

More than 25 million Americans are over the age of 65¹; the incidence of hearing loss in this group begins at 33% and increases to approximately 50% as the population members enter their late 70s.² The hearing loss frequently creates frustration and resentment sufficient to cause these individuals to retreat and isolate themselves from family and friends.³

Pathology

The major sites of lesion are the sensory end-organ (cochlea) and the peripheral and central nervous systems. Schuknecht^{4,5} classified four types of presbycusis relative to histologic findings in the temporal bone: (1) sensory, (2)

neuronal, (3) strial, and (4) cochlear "conductive." Others^{6,7,8} have described a reduction of fibers and neurones in the eighth nerve, spiral ganglion, ventral cochlear nucleus, medial geniculate body, superior olivary complex, inferior colliculus, and primary auditory cortex.

Histologic findings, however, do not completely correlate with the audiometric dysfunctions encountered⁹; furthermore, metabolic diseases, noise, genetic factors, vascular insufficiencies, and ototoxic drugs exacerbate age-related hearing deficits,¹⁰ making it very difficult to differentiate these effects from aging.¹¹

Psychoacoustic and Electrophysiologic Observations

Since Zwaardemaker¹² first described presbycusis, it has been associated with bilateral progressive, high-frequency sensorineural hearing loss and disproportionately poor speech discrimination.¹³

When the sensorineural hearing loss is dissected audiometrically, evidence of cochlear, eighth nerve, brainstem, and temporal lobe dysfunction is apparent; the central nervous system component progresses more rapidly.⁹

Most patients will demonstrate recruit-

ment by the Metz test, less by monaural loudness balancing tests, indicating a cochlear site of lesion; however, the short increment sensitivity index (SISI) indicates that though the malfunctioning aged cochleae recruit, they are less able to differentiate small intensity differences than younger cochleae with similar degrees of loss.

Fewer patients demonstrate abnormalities in tone decay (TDT), suprathreshold adaptation test (STAT), and stapedius reflex measurements indicative of eighth nerve lesion.¹⁰

Stapedius reflex patterns vary relative to the crossed and uncrossed pathways, suggesting a greater effect of aging on the polysynaptic crossed pathways in the brainstem.¹⁰ Poorer performance on and progressive deterioration of synthetic sentence identification (SSI),⁹ significant increases in the V-I interval, and increased waveform disorganization seen during auditory brainstem response testing (ABR)¹⁰ further implicate the brainstem in the progressive lesion.

Progressive deterioration of staggered spondee word testing (SSW), SSI testing with competing messages, contingent negative variation (CNV) abnormalities on cortical evoked response audiometry,¹⁰ and reduced short-term memory to digit span testing⁹ indicate a progressive cortical lesion.

These lesions not only create hearing deficits but they increase the rejection rate for hearing aids beyond that seen in other patients with similar degrees of only cochlear losses.⁹

Rehabilitation

The goals of rehabilitation are (1) to optimize sensory capability, (2) to minimize communication problems, and (3) to inform and support the patient and his family.¹⁴

The primary method of optimizing sensory capability is through amplification. Five factors must be considered; these are¹⁵ (1) electroacoustic characteristics of the amplification system; (2) ease of manipulation of the system for the patient; (3) minimizing background noise, a favorable signal to noise ratio; (4) optimum system for the specific communication

needs of the patient, eg, private listening devices such as low-frequency door bells and telephone, television, and radio attachments; and (5) slowing the rate of and increasing the intelligibility of incoming speech by family education.

Very effective in minimizing human and inanimate obstructions to good communication, and in the delivery of information and support, is group counseling.¹⁵ The opportunity to meet with and discuss their individual problems with one another helps members of this extremely heterogeneous group cope with the problem and develop unique individual strategies that work. □

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Department of Otorhinolaryngology, College of Medicine, University of Oklahoma Health Sciences Center, PO Box 26307, South Pavilion, Oklahoma City, Oklahoma 73126.

J. Gail Neely, MD, FACS, is professor and head of the Department of Otorhinolaryngology, University of Oklahoma Health Sciences Center. A 1965 graduate of the University of Oklahoma College of Medicine, Neely is a member of the American Council of Otolaryngology, American Neurotology Society, Association for Research in Otolaryngology, and the Society of University Otolaryngologists. He is a Fellow of the American Academy of Ophthalmology and Otolaryngology.

Paths to Progress II:

Toxicology and Therapeutic Drug Monitoring Laboratory

DONALD L. FREDERICK, PhD

The laboratories of the Oklahoma Teaching Hospitals (OTH) have made dramatic advancements in recent years. Consultative services in selected areas are now available to the physicians of Oklahoma.

The toxicology and therapeutic drug monitoring laboratory of Oklahoma Teaching Hospitals (OTH) provides service ranging from rapid quantitative drug levels to comprehensive drug screening procedures. The emergency toxicology service began in 1979 and expanded to 24-hour-a-day coverage in 1980. In 1983 all therapeutic drug monitoring for OTH was centralized in this laboratory to provide comprehensive and accurate assessment of therapeutic drug usage.

The Clinical toxicology section provides a comprehensive drug screening service for the emergency medicine service of Oklahoma Children's Memorial Hospital and Oklahoma Memorial Hospital. Preliminary identification and confirmation procedures are performed for

over 100 drugs found in the patient population presenting to emergency rooms with a possible drug overdose. These procedures have been developed to minimize sample volumes (for small children), to provide rapid turn-around time and to include a wide range of drug classes. Gas chromatography, thin layer chromatography, liquid chromatography, immunoassays, spectroscopy, and gas chromatography-mass spectroscopy (GC-MS) are the analytical tools used in these procedures.

Patients' symptoms and clinical history are used to direct the toxicology technologist to procedures that provide rapid preliminary identification, which is followed by confirmation with a separate analytical technique. A typical example of this screening-confirmation approach is the use of thin layer chromatographic analysis of a urine extract to provide identification of a tricyclic drug and its metabolites. A gas chromatographic procedure is then employed to confirm the presence of the drug, for example, amitriptyline. In addition, a liquid chromatographic procedure can be used to quantitate the level of amitriptyline and nortriptyline in the blood. The quantitative drug concentrations can be used to monitor

therapy and are especially helpful if dialysis or charcoal hemoperfusion is used in the treatment. In complicated cases of multiple drugs, the GC-MS is particularly useful in drug identification.

The therapeutic drug monitoring section provides full-time emergency service for all routine therapeutic drugs. A wide range of analytical instrumentation is used to provide rapid response, cost effectiveness, and the best analytical methodology. High performance liquid chromatography is used for many drug assays because it offers low operation cost, is very specific, and may quantitate more than one drug in a single analysis. Immunoassays are used when rapid turn-around time is desired as exemplified by aminoglycosides and antiarrhythmic drugs. Gas chromatography is also used when the analysis is particularly suited to this technique, as it is with valproic acid.

In addition to the routine drugs, assays have been developed to evaluate the use of newer drugs in specific clinical situations. The antibiotics cefoperazone and moxalactam are examples of these assays. Assays for indomethacin, tricyclic antidepressant drugs, chloramphenicol, caffeine, and thiocyanate are also available. Procedures currently under development are free drug assays and assays for new antiarrhythmic drugs. □

Oklahoma Teaching Hospitals, Toxicology Laboratory, PO Box 26307, Oklahoma City, Oklahoma 73126.

Donald L. Frederick, PhD, is assistant professor of pathology at the University of Oklahoma Health Sciences Center. A specialist in pathology, he was graduated from the Medical College of Virginia in 1976. Frederick is certified by the American Board of Bioanalysts and is a member of the American Association for Clinical Chemistry and the Southwestern Association of Toxicologists.

Essential Qualities of a Good Lecture

D.J. FLOURNOY, PhD
RICHARD M. HYDE, PhD

The authors gave a questionnaire regarding the essential qualities of a good lecture to second-year medical, dental, and physician's assistant students. The findings may suggest that medical school lecture attendance relates to the quality of the lectures' presentation.

Procedure

Medical, dental, and physician's assistant students are required to take an interdisciplinary course in microbiology, immunology, and pathology as a part of their basic science education at the University of Oklahoma Health Sciences Center. This 14-week fall course is called Etiology and Pathogenesis of Disease (EPD). A questionnaire (Figure 1) was given to all students attending the EPD lecture on October 12, 1982. Students were asked to grade the importance of items 1 through 16 on a 5-point scale from -2 to +2. A grade of +2 indicated that that item was considered very

conductive to a good lecture, +1 indicated conducive, 0 indicated marginally conducive, -1 indicated not conducive, and -2 indicated detrimental. Items 17 through 20 were questions requiring written comments. Not all students responded to the questionnaire. Those not attending lecture that day were polled by mail distribution of the questionnaire.

Results

Students were given questionnaires with 20 items for response (Figure 1). The first 16 items were to be evaluated as to their importance to a good lecture. A summary of responses from medical, dental, and physician's assistant students is shown in Table 1. Items 2, 3, 4, 8, 9, and 12 were considered very conducive to a good lecture by all three groups of students. Item 16 was the most controversial as evidenced by the wide range in each response group. Other controversial items were 1, 6, 10, 11, 14, and 15. Ratings of all items were highest among physician's assistant students, followed by medical and dental students respectively. Dental students graded visual aids higher than did medical students, whereas

(continued on page 54)

Questionnaire

Items for evaluation:

1. The lecture is accompanied by an outline.
2. The lecture is obviously well prepared for each class.
3. There is a logical progression of the major lecture points.
4. Expectations of material mastery are clearly identified.
5. All major topics are noted on the chalkboard.
6. Chalkboard material is relevant to the topic.
7. Helpful visual aids are utilized.
8. The lecturer is clearly understood.
9. Clarification of important areas is evident.
10. Lectures are repetitive of textbook material.
11. Interest in the topic by the lecturer is evident.
12. The lecturer appears concerned that the students understand the material.
13. The lecturer seems to know when students do not understand the material.
14. The lecture motivates the students to learn.
15. A question-and-answer period is offered.
16. The lecture is accompanied by a handout.

Essay questions:

17. What do you dislike most about lectures?
18. What do you like most about a good lecture?
19. Which is more important to you as a student — presentation, material (content), or both presentation and content?
20. Is there a better way, than lecturing, to teach a large group of students a lot of material in a short time? If yes, explain.

Figure 1. — Questionnaire material

Table 1. — Summary of Questionnaire Results (Items 1-16)

Item No.	MS II			PA			DS II		
	No*	Mean	Range	No*	Mean	Range	No*	Mean	Range
1	75	+1.3	0 to +2	13	+1.5	-1 to +2	54	+1.2	-1 to +2
2	75	+1.8	+1 to +2	13	+2.0	+2	54	+1.8	0 to +2
3	75	+1.9	0 to +2	13	+1.9	+1 to +2	54	+1.8	0 to +2
4	74	+1.6	0 to +2	13	+1.8	+1 to +2	54	+1.6	0 to +2
5	74	+1.1	0 to +2	13	+1.4	0 to +2	54	+1.0	-1 to +2
6	74	+1.2	0 to +2	13	+1.4	-1 to +2	54	+1.2	-1 to +2
7	74	+1.4	0 to +2	13	+1.6	0 to +2	54	+1.3	-1 to +2
8	74	+1.9	+1 to +2	13	+1.8	+1 to +2	54	+1.7	-1 to +2
9	74	+1.7	0 to +2	13	+1.8	0 to +2	54	+1.7	-1 to +2
10	70	+0.9	-2 to +2	12	+1.3	0 to +2	54	+0.8	-2 to +2
11	72	+1.3	-1 to +2	11	+1.6	0 to +2	54	+0.9	-2 to +2
12	70	+1.4	-2 to +2	11	+1.7	+1 to +2	54	+1.3	0 to +2
13	70	+1.4	0 to +2	11	+1.5	0 to +2	54	+1.2	0 to +2
14	70	+1.1	+1 to +2	11	+1.6	0 to +2	53	+0.8	-1 to +2
15	70	+0.7	-2 to +2	11	+1.4	0 to +2	54	+0.8	-1 to +2
16	70	+0.8	-2 to +2	12	+1.4	-2 to +2	54	+1.1	-1 to +2

*number of responses per item

Item ratings: +2 (very conducive to a good lecture), +1 (conductive), 0 (marginally conducive), -1 (not conducive), and -2 (detrimental).

Table 2. — Summary of Questionnaire Results (Items 17-20)

Item	Subject	Comments	Number of students			
			MSII	PA	DSII	Total
17	Dislikes:	Poor organization	15	2	4	21
		Too much, too fast	8	5	7	20
		Irrelevant, nonexam material	9	1	9	19
		Boring, noninspired presentation	13	1	4	18
		Nonlogical progression	5	3	5	13
		Early morning lectures	7	0	6	13
		Subject not oriented toward dentistry	0	0	6	6
18	Likes:	Concise, with good organization	28	1	7	36
		Interesting, exciting, with speaker enthusiasm	14	3	13	30
		Logical progression	14	0	9	25
		Only emphasize major, basic points; straightforward	2	4	17	23
		Motivational	6	3	4	13
		Humor	6	3	2	11
		Good visual aids	7	0	2	9
		Simplification of complex material	0	2	3	5
19	Most Important:	Presentation	9	0	8	17
		Material (content)	9	2	9	20
		Both	45	10	37	92
20	Anything better than lectures:	No	15	4	14	33
		Self-instruction	7	1	7	15
		Notegroups/handouts	1	1	3	5

MSII (second-year medical students), PA (physician's assistant students), DSI (second-year dental students)

medical students felt that lecturer interest was more important than did dental students.

The commonest responses to items 17 through 20 appear in Table 2. Comments show that most students consider both content and presentation to be important to a good lecture. They feel a lecture should be well organized and concise, and have a logical progression of thought. Of the 142 students surveyed, only 69 responded to item 20. The commonest responses are noted in Table 2. Most respondents felt lectures were the best method of presenting material, but some felt self-instruction was better.

Discussion

Most of our students felt that a good lecturer should show concern that students understand the material. The lecture should (1) be well prepared, (2) have a logical progression of major lecture points, (3) clearly identify expectations of material mastery, (4) be well understood, and (5) clarify important areas. Since students are expected to attend many lectures, it makes sense that they think irrelevant (nonexam) material should be omitted, yet the presentation should be exciting, enthusiastic, motivational, and humorous. These demands

are not unreasonable considering the amount of time these students are expected to spend in class.

A great deal of concern about medical education has been expressed in the last few years. Some educators think there is an information overload on students¹ and students should be learning to solve problems and process information^{2,3} rather than simply store data (eg, memorize minutia for test purposes). In addition, students should be able to see the value in their educational endeavors and enjoy their educational experience. Many do not enjoy it, however.⁴

Perhaps one way of improving the educational process is to improve teaching efficiency. Are those who lecture always aware of the most efficient methods of presenting material? It is hoped that this paper clarifies what we consider to be essentials of a good lecture and thus can help improve teaching and learning for all those involved. □

R.H. French and S. Osborn (Academic Counseling, University of Oklahoma Health Sciences Center) helped design the questionnaire.

References

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4. Rogers DE: Some musings on medical education. *The Pharos* 45:11-14, 1982.

VA Medical Center (113), 921 Northeast 13th Street, Oklahoma City, Oklahoma 73104.

D.J. Flournoy, PhD, a specialist in clinical microbiology, is associate professor of pathology at the University of Oklahoma Health Sciences Center. A 1973 graduate of the University of Houston, he is a member of the American Society for Microbiology.

Richard M. Hyde, PhD, is professor of microbiology and immunology at the University of Oklahoma Health Sciences Center. He is a member of the American Society for Microbiology and several other professional organizations. Hyde was graduated from the University of Minnesota in 1962.



News From The Oklahoma State Department of Health

Home health care program

The Oklahoma State Department of Health's Home Health Care Program has provided services for Oklahomans since 1960, making it the oldest home care provider system in the state.

The program offers medical and social services for individuals of any age who are acutely or chronically ill or convalescing. Care is provided on an intermittent, part-time basis, as directed under a physician's plan of treatment.

Most local health departments — 56 of the 62 counties with local health units — participate in the Home Health Care Program. Patients are accepted regardless of ability to pay, and a fee schedule takes into account the patients' financial abilities.

Under the direction of a physician, a plan of care to help the patient remain as independent as possible is developed with the home health care nurse. The nurse provides the services necessary for the patient to receive care at home and, when possible, includes family members in caring for the patient. The nurse also observes the patient for any changes and reports to the physician.

Nurses are often assisted in the Home Health Care Program by therapists, home health aides, and others who provide health and social services. Their common goal is to help individuals remain in their own homes and live as independently as possible, despite the problems their illnesses may present. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR NOVEMBER 1983

Disease	November	November	October	Total to Date	
	1983	1982	1983	1983	1982
Amebiasis	—	—	2	12	11
Aseptic Meningitis	16	24	30	346	205
Brucellosis	—	1	—	6	8
Encephalitis, Infectious	1	2	2	32	38
Gonorrhea (Use Form ODH-228)	940	1,096	1,238	13,937	14,440
Hepatitis A	67	49	283	742	675
Hepatitis B	29	24	30	297	316
Hepatitis unspecified	22	46	30	237	277
Malaria	—	—	—	8	8
Measles (Rubeola)	—	—	—	1	30
Meningococcal infections	3	3	4	34	27
Pertussis	23	1	65	325	6
Rabies (animal)	22	13	88	101	185
Rocky Mountain Spotted Fever	2	—	6	217	88
Rubella	—	—	—	—	3
Salmonellosis	38	30	94	556	435
Shigellosis	13	25	44	223	372
Syphilis (Use Form ODH-228)	16	20	10	201	190
Tetanus	—	—	—	—	1
Tuberculosis	14	22	16	219	301
Tularemia	1	—	2	30	32
Typhoid Fever	—	—	—	3	3

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Toxic shock data suppressed by Procter & Gamble?

New evidence revealed in a Texas courtroom has tightened the link between toxic shock syndrome (TSS) and Procter & Gamble's Rely Super brand of tampons. Testimony also suggested that Procter & Gamble attempted to suppress scientific data confirming the link.

Reporter Charles Marwick, in the *Journal*

Tulsa joins OSMA staff as communications director

M. Michael Sulzycki of Tulsa has been named associate director/director of communications by the Executive Committee of the Oklahoma State Medical Association (OSMA) Board of Trustees.

Sulzycki served previously as director of media information for the University of Oklahoma Tulsa Medical College before being appointed director of Tulsa Life Flight, Oklahoma's first emergency medical helicopter service, in 1979.

He is a graduate of Fordham University in New York City and received a Master of Science degree from the Newhouse School of Communication at Syracuse University.

As associate director/director of communications, Sulzycki succeeds Anita H. Delaporte, who moved to Baltimore in November after two years with the OSMA. □

of the American Medical Association (*JAMA*), said that researcher Merlin Bergdoll, PhD, of the University of Wisconsin, conducted investigation funded by Procter & Gamble aimed at clarifying the link, if any, between tampons and toxic shock syndrome.

Among the findings: a toxin-producing *Staphylococcus aureus* strain produced 180 µg/mL of SEF (enterotoxin F, one of the two toxins associated with toxic shock) when grown on a Rely Super tampon. In contrast, less than 0.5 µg/mL were produced when cultivated on cotton. In addition, only 42 µg/mL of SEF were produced on Playtex Super Plus tampons, and 53 µg/mL on Tampax Super Plus.

Bergdoll reportedly made the findings two years ago, and James S. Widder, PhD, of Procter & Gamble was said to have reproduced the experiments and confirmed the findings 18 months ago.

"But, not only has Procter & Gamble not made the information public; it has gone to considerable legal lengths to keep it under wraps," said *JAMA* reporter Marwick.

Procter & Gamble removed the Rely product from the market in 1980, when the number of toxic shock syndrome cases per month peaked at 135 in August. The number of cases registered with the Centers for Disease

(continued on next page)

Toxic shock (continued from page 59)

Control (CDC) averages 35 per month. More than 1,800 menses-related cases of toxic shock have been reported to the CDC, and over 100 deaths have resulted from the syndrome.

The information came to light in the US District Court in Fort Worth in an action filed by Lynn Wallace, an alleged toxic shock victim, against Procter & Gamble. Her attorney gained access to the Bergdoll data and the Procter and Gamble data confirming it. Access to the data had been blocked in a Kansas City courtroom in an earlier case (settled out of court) after Procter & Gamble claimed the data represented an "attorney's work product" and therefore was not "discoverable."

Federal Judge David O. Belew, Jr, ruled that the data was discoverable, and "the cat was finally out of the bag," said Marwick.

He added that "Procter & Gamble continues to maintain that it is unaware of any evidence indicating that Rely was in any way defective or that any of its ingredients were harmful or contributed to the development of TSS." Marwick reported that Bergdoll initially was reluctant to publish his findings in a scientific journal because few "real hard conclusions could be drawn from this work."

Marwick added that the researcher now says he will offer the information for publication. "We've decided that if it's going to be made available anyway we might as well go ahead and publish it." □

Staff changes at OSMA Journal include new associate editor

Susan R. Harrison of Oklahoma City is the new associate editor of the *Journal of the Oklahoma State Medical Association*.

She replaces Louise Martin who recently retired after 26 years of distinguished service with OSMA.

Harrison earned a BA in journalism from the University of Oklahoma. She brings to her position with OSMA over ten years of experience as a proofreader, writer, and editor for newspapers and magazines in Oklahoma and Georgia.

In addition to serving as liaison to the editorial board, Harrison is responsible for the news content, design, and production of the *Journal*. □

CALL FOR RESOLUTIONS

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates annual meeting must be received in the executive office no later than thirty (30) days prior to the meeting. This year's meeting will be held May 9-12, 1984, at Shangri-La, Afton, Oklahoma.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 NW Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices.

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March 31	Practice Building & Marketing Methods	Tulsa
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June 6	Computers in the Medical Office	Oklahoma City
June 6	Telephone Collecting Medical Accounts	Oklahoma City
June 7	Law for Medical Offices	Oklahoma City
June 19	Medical Office Management	Tulsa
June 20	Telephone Collecting Medical Accounts	Tulsa
June 20	Computers in the Medical Office	Tulsa
June 21	Law for Medical Offices	Tulsa
August 18	Managing Your Practice (For Physicians Only)	Tulsa
August 25	Managing Your Practice (For Physicians Only)	Oklahoma City
October 23	Medical Office Management	Tulsa
October 24	Telephone Collecting Medical Accounts	Tulsa
October 24	Computers in the Medical Office	Tulsa
October 25	Law for Medical Offices	Tulsa
October 30	Medical Office Management	Oklahoma City
October 31	Telephone Collecting Medical Accounts	Oklahoma City
October 31	Computers in the Medical Office	Oklahoma City
November 1	Law for Medical Offices	Oklahoma City

Errors creep into OSMA medical directory

The 1984-85 OSMA Medical Directory was distributed to members in December, and although every effort was made to avoid errors during production and printing, inevitably some did occur. Readers may wish to note the following corrected entries in their directories:

Bhatia, Surindar K. 236-5681
'39 India -03 '61 CD
1211 N. Shartel #804, Oklahoma City
73103

Dahr, A.S. 947-2321
'38 Syria -01 '63 CD
5700 NW Grand Blvd., Oklahoma City
73112

Gudi, Modhi 232-8965
'44 India -11 '68 IM
1111 N. Lee, Oklahoma City 73103

Johnson, Mark R. 236-3131
'23 OK -01 '46 IM
707 NW 7th #130, Oklahoma City 73146

Lyon, Lee Arden 325-4611
'35 TX -12 '68 EM
620 Elm, Norman 73069

Miller, G. Lance 749-6485
'30 OK -01 '64 ON
1725 E. 19th #700, Tulsa 74104

Porter, David A. 329-4304
'52 OK -01 '78 OBG
1407 N. Porter, Norman 73071

Small, Robert G. 271-6908
'27 CT -01 '51 OPH
608 Stanton L. Young Blvd., Oklahoma City
73104

Twitchell, Annette 232-1361
'47 MO -02 '73 FP
614 NE 4th, Oklahoma City 73104

Winzenread, Michael L. 755-1123
'49 OK -01 '75 FP
2733 W. Britton Road, Oklahoma City
73120

□

Racquetball goggles offer inadequate protection

Most of the different types of safety goggles that racquetball players use do not protect the eyes. In fact they may even exacerbate injury, according to reports in the *Journal of the American Medical Association (JAMA)*.

When eyeglasses or commercially available eye-guards are subjected to head-on 65 mph impacts with racquetballs, the frames break, or the lenses shatter, report researchers from the University of Illinois College of Medicine, Chicago. Typical racquetball speeds are often significantly higher during games, they add, sometimes reaching speeds of 127 mph.

Michael J. Feigelman, MD, and colleagues evaluated 19 eye-guards and spectacles and found that after repeated 65-mph impacts from racquetballs, only 4 kept the ball from reaching the eye area. The other goggles failed the examiners' criteria for safe goggles, either

shattering or allowing the ball to squeeze through the frame and hit the eye. The experiments were performed on a specially made mannequin.

"Our data clearly showed open, lensless eye-guards to be ineffective in preventing ocular injury," say the researchers. They add that players should not substitute conventional dress spectacles for goggles as an alternative for eye protection since "the use of improper goggles can potentially convert blunt trauma into penetrating ocular trauma."

The researchers say that three of the seven closed eye-guards (goggles with lenses) tested also did not provide protection.

Of all goggles tested, the "closed" safety goggles offered the best protection in this study. The lenses should be made of polycarbonate and the frames should not have hinges at the temples, say the Chicago researchers. □

Head and spinal cord injuries may worsen with high steroid doses

Using large amounts of steroids to treat head and spinal injuries does not always alleviate complications. In fact, that high-dose steroid treatment may even make them worse.

A recent study shows that when victims of automobile accidents, falls, and other accidents affecting the spinal cord are treated with ten times the standard dose of steroids, wounds often fail to heal, and infections occur. This contradicts earlier studies with animals that showed higher doses to be beneficial, particularly in alleviating swelling at an injury site.

Michael B. Bracken, MD, from Yale University Medical School, who conducted the multicenter study of steroid treatment for neurotraumatized patients, says that patients receiving high levels of the steroid methylprednisolone experienced a three-fold death rate compared to patients receiving standard doses. He concedes that the death rates are not

significant statistically, but adds that "the elevated case fatality rate in the high-dose patients was of such concern, especially in the absence of any evident benefit, that patient accrual [entrance] into the trial was discontinued several months before the planned termination date."

The researcher studied 330 severely injured patients and found no statistically significant benefit in those treated with 1,000 mg/day of methylprednisolone compared with patients receiving 100 mg/day.

Steroids were first used in 1951 to prevent swelling of brain tissue after surgery. Since then, neurosurgeons have used steroids to treat a wide variety of neurological injuries, including closed-head injuries. While animal studies have shown favorable results with steroids, clinical trials have produced mixed outcomes. □

In Memoriam

1983

<i>Dewey K. Rhea, MD</i>	<i>January 3</i>
<i>Fred C. Buffington, MD</i>	<i>January 4</i>
<i>C.D. Cunningham, MD</i>	<i>January 26</i>
<i>William S. Jacobs, MD</i>	<i>February 9</i>
<i>John R. Little, MD</i>	<i>February 11</i>
<i>L.A.S. Johnston, MD</i>	<i>February 16</i>
<i>Selwyn A. Willis, MD</i>	<i>March 3</i>
<i>Virgil Ray Forester, MD</i>	<i>March 8</i>
<i>George Ross, MD</i>	<i>March 11</i>
<i>Holice B. Powell, MD</i>	<i>March 18</i>
<i>John A. Brasfield, MD</i>	<i>April 15</i>
<i>George M. Adams, MD</i>	<i>May 3</i>
<i>John R. Reid, Jr, MD</i>	<i>June 14</i>
<i>Gilbert E. Haslam, Jr, MD</i>	<i>June 15</i>
<i>Thomas A. Trow, MD</i>	<i>June 23</i>
<i>Richard D. Mullett, MD</i>	<i>June 28</i>
<i>Aaron C. Little, MD</i>	<i>July 1</i>
<i>Michael C. Manning, MD</i>	<i>July 3</i>
<i>Hillard E. Denyer, MD</i>	<i>August 8</i>
<i>Edward A. Allgood, MD</i>	<i>August 18</i>
<i>Hugh E. Wilson III, MD</i>	<i>August 27</i>
<i>Harold J. Black, MD</i>	<i>September 1</i>
<i>Marque O. Nelson, MD</i>	<i>December 24</i>
<i>Park H. Medearis, MD</i>	<i>December 26</i>

Deaths

MARQUE O. NELSON, MD 1897 - 1983

Marque O. Nelson, MD, died December 24, 1983, at his home in Tulsa. A native of Saint Paul, Minn, Nelson had been a dermatologist for 50 years. He was graduated from the University of Minnesota School of Medicine in 1922 and completed his internship and residency in White Plains, New York. Nelson served as staff dermatologist at the Mayo Clinic and Foundation before resigning to establish his practice in Tulsa. He retired in 1978. Nelson was a member of the American Academy of Dermatology and the Oklahoma Dermatology Association.

PARK HINDS MEDEARIS, MD 1887 - 1983

General practitioner Park H. Medearis, MD, of Tahlequah died December 26, 1983. Born in Cincinnati, Ark, he earned his medical degree at Louisville Medical School, Louisville, Ky, in 1916. He moved to Tahlequah in 1919 and practiced there until his retirement in 1977. Medearis was a member of the American Academy of Family Physicians.

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Developing tumor causes loss of sense of smell

Brain tumors can be detected sooner and treated successfully if people learn to follow their noses.

Loss of smell is often the first sign of a brain tumor, and people who develop tumors usually lose their sense of smell years before a brain scan reveals the presence of a growth, according to Louis Bakay, MD, from State University of New York at Buffalo.

Patients are rarely aware of their gradual loss of smell; often a close family member first notices the patient's problem, Bakay says. The researcher studied 36 tumor sufferers and found that the majority of the patients did consult a physician years before but that a brain tumor was the least suspected cause of their anosmia (loss of smell).

"Yet it is interesting that anosmia alone was never the cause of subsequent diagnosis of olfactory meningioma," Bakay says. "The majority of the patients in this series mentioned

this complaint to a physician. They were usually told that it was the aftereffect of a severe cold or sinusitis."

Bakay says that acquired, organic loss of the sense of smell can be due to nasal obstruction or, more commonly, a head cold. Even after an injury, however, the olfactory center should rebound after many months.

If unexplained anosmia persists, the researcher says that a computed tomographic (CT) brain scan should be considered. The CT scan would be able to depict any tiny olfactory anomaly that may exist. The subsequent surgical removal of any small tumor found would be much safer than the excessive bleeding and trauma associated with removing larger growths, Bakay notes.

The CT scanning technique is now used to detect tumors of the hearing center in the brain. □

Book Reviews

Infectious Diseases. Edited by Jay P. Sanford and James P. Luby. (Volume 8 in *The Science and Practice of Clinical Medicine*). New York: Grune and Stratton, 1981. Pp 426, illustrated, \$51.35.

Part of a new multivolume textbook of internal medicine, *The Science and Practice of Clinical Medicine*, this volume covers a broad discipline in less than 500 pages. The topics with which it deals are therefore treated in a concise fashion. There are 91 contributors.

The text is divided into three segments — major pathogenetic mechanisms, the clinical approach to common symptom complexes, and conditions associated with specific microorganisms. The seven topics in the first section are well chosen. "Pathogenesis of Fever" by Sheldon M. Wolff is brief but worthwhile. A section on hypoglycorrhachia is not usually included in textbooks and is welcomed.

The discussions of various symptom complexes are welcome and useful.

The section "Clinical Approach to Common Symptom Complexes" contains 11 chapters. This approach to infections requires insight and is commonplace in clinical practice, yet it tends to be either neglected or poorly organized in most textbooks. Consequently, the discussions of various symptom complexes, such as "fever, headache, and meningeal signs," "rhinopharyngitis," "fever and skin rash," "fever without localizing signs," and others, are welcome and useful. Also useful are the discussions of the causes of parotid swelling, odor produced by bacteria, and infectious complications of addiction.

The largest section of the text concerns conditions associated with specific microbial pathogens. The clinical presentations, diagnoses, and management are clearly presented and there are helpful summaries of epidemiologic and microbiologic features. This section is divided in the traditional fashion

based on the nature of the infecting organism (viruses, aerobic bacteria, anaerobic bacteria, etc).

This text was carefully prepared and is recommended for students, house officers, and practitioners.

Harris D Riley, Jr, MD
Children's Memorial Hospital
University of Oklahoma Health Sciences Center
Oklahoma City, Oklahoma

The Navajos. By Ruth M. Underhill, Norman: University of Oklahoma Press, 1983, pages 288 with 24 illustrations, 2 maps, price not given.

A history of the Navajo Indian tribe, this story goes back as far as can be traced, describing the four outstanding epochs or "beginnings," with much detail about migrations, social customs, relationships with neighboring tribes, living conditions, and the influence of the Spaniards from Mexico, and later the white settlers from the eastern US. This review will briefly summarize the four "beginnings" of the Navajo tribe, which is today the largest in the United States.

The first "beginning" is somewhat nebulous but dates roughly to five centuries ago and is based on myth, legend, and archeological data. Evidence indicates the Navajos migrated from Siberia into Alaska and western Canada, then southward into Arizona and New Mexico. They lived a primitive existence by the code of the wilderness, hunting and fishing and learning from neighboring tribes, mainly the Pueblos, who depended more on agriculture and had been in the southwestern US since AD 1100.

About AD 1600 the Navajos moved from myth into history, and their second "beginning" was when the Spaniards came north from Mexico bringing domesticated animals, Christianity, social customs, and the arts of weaving and silversmithing. The Spaniards came first to the Pueblos, but this tribe revolted in about 1680 and, despite the conflict in an uncivilized area, the Navajos profited by all the Spaniards had brought to the region.

In 1846 Mexico declared war on the US. There followed several decades of conflict between the US Army, the Indians, and the

Bureau of Indian Affairs. Each played its role and never really understood the basic problems of the others.

In 1849 the Bureau of Indian Affairs was turned over to the Department of Interior, but there still existed more problems than solutions, and the Indians adapted poorly to the white culture.

In 1868 a treaty between the US and the Navajos was signed, and the tribe was moved to a reservation in northeastern Arizona and adjacent parts of Utah and New Mexico. This was the Navajos' third "beginning," and on the reservation they did make some progress toward the standards of white civilization. However, the course was hectic and full of conflicts and hardships for the Navajos. Indian education was begun, and land irrigation was introduced, and in 1881 a railroad came through the reservation, bringing the traders from the eastern US.

The Navajos' lot improved with their agriculture, grazing, wool production, and trading; they were slowly and laboriously on their way to a somewhat better life, in spite of the poor understanding between the US government and the Indian.

Some Navajos fought in World War I, but were not part of the draft. In 1924 literate Navajos were given the right to vote. The Indian slowly developed a desire for many of the whites' methods and ways of life.

Some Navajos fought in World War I, but were not part of the draft.

In World War II the Navajos were drafted and became good soldiers. In the Signal Corps they communicated in the Navajo language, which the enemy could not decode.

Through their experience in World War II, and in many other ways, the Navajos came to desire more rights, property, conveniences, and self-sufficiency, and went about acquiring all these; this has been called their fourth "beginning."

In 1940 oil was discovered on the Navajo reservation. The population doubled, and the Navajos became the richest tribe in the US. The Indian Bureau made ever-widening and long-range plans for the Navajos' future welfare, plans equal to those of the white society.

The lengthy bibliography indicates extensive and careful researching of materials for this book, and a brief review really doesn't give sufficient credit to this fine piece of work.

For anyone interested in the history of the Original American — the Indian — this book is highly recommended. Its absorbing historical interest, fascinating style, and extensive detail, are done extremely well by Dr Underhill.

*— Luke L. Ellenburg, Sr, MD
1203 Dogwood Drive
Greeneville, Tennessee 37743*

Neonatology: Pathophysiology and Management of the Newborn. Edited by Gordon A. Avery. Philadelphia: J. B. Lippincott Company, 1981. Pp 1,272, \$79.50.

This is a new edition of a textbook that has already proved to be very useful. It is comprehensive, with 46 chapters and 71 contributors, and is the size of many general textbooks, an indication of the growth of neonatology in recent years. The chapters are well written and are enhanced by the extensive use of graphs, tables, and literature reviews. An attractive feature is the fact that each chapter is presented independently and can be read "on its own" without reference to other chapters. There is good coverage of the management of high-risk pregnancies, labor and delivery, and obstetrical anesthesia, topics which are not always adequately covered in books on neonatology. The references are up to date.

This edition is highly recommended. The price will prevent most individuals from owning it, but it should be available in the libraries of all hospitals that care for sick newborns.

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MIDWEST PAIN SOCIETY 8TH ANNUAL SCIENTIFIC MEETING, "PRACTICAL MANAGEMENT OF COMMON PAIN SYNDROMES," March 16-17, 1984, Westin-Crown Center Hotel, Kansas City, MO. Guest Speaker: Jes Olesen, MD, Hellerup, Denmark. Contact Jan Johnston, Office of C.E., Univ. of Kansas Medical Center, Rainbow at Olathe, Kansas City, KS 66103. (913) 588-4480.

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SPORTS MEDICINE: REHABILITATION OF THE INJURED ATHLETE, March 15, 1984, Westin-Crown Center Hotel, Kansas City, MO. Guest Speakers: Barbara J. DeLateur, MD, Univ. of Washington-Seattle, and James H. McMaster, MD, Univ. of Pittsburgh. Contact Jan Johnston, Office of C.E., Univ. of Kansas Medical Center, Rainbow at Olathe, Kansas City, KS 66103. (913) 588-4480.

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Cooperative effort

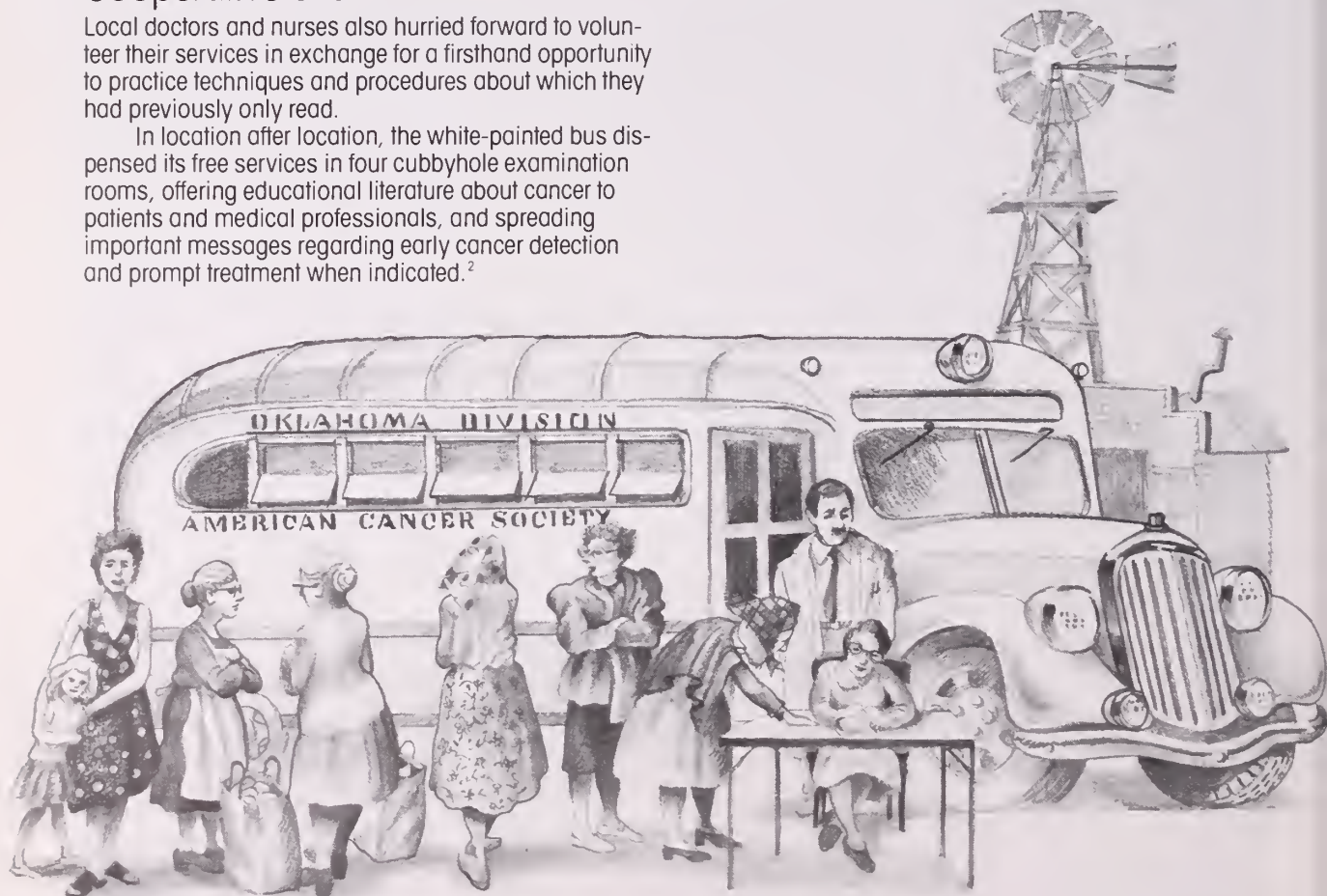
Local doctors and nurses also hurried forward to volunteer their services in exchange for a firsthand opportunity to practice techniques and procedures about which they had previously only read.

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References: 1. Kane JN. *Famous First Facts*, 3rd ed. New York, The H. W. Wilson Co., 1964, p. 367. 2. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.



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- Middle insomnia—87%
- Late insomnia—89%
- ☐ Gastrointestinal upset—73%

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Patients should be cautioned about the combined effects with alcohol or other CNS depressants and about activities requiring complete mental alertness such as operating machinery or driving a car.

References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, edited by Jarvik ME, New York, Appleton-Century-Crafts, 1977, p 316. 2. Feighner JP *et al*: *Psychopharmacology* 61: 217-229, Mar 1979. 3. Data on file, Hoffmann-La Roche Inc., Nutley, NJ

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Please see summary of product information on following page.

LIMBITROL® TABLETS (Tronquizer—Antidepressant)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief at moderate to severe depression associated with moderate to severe anxiety

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias at the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration at 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage at three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

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Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitals intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

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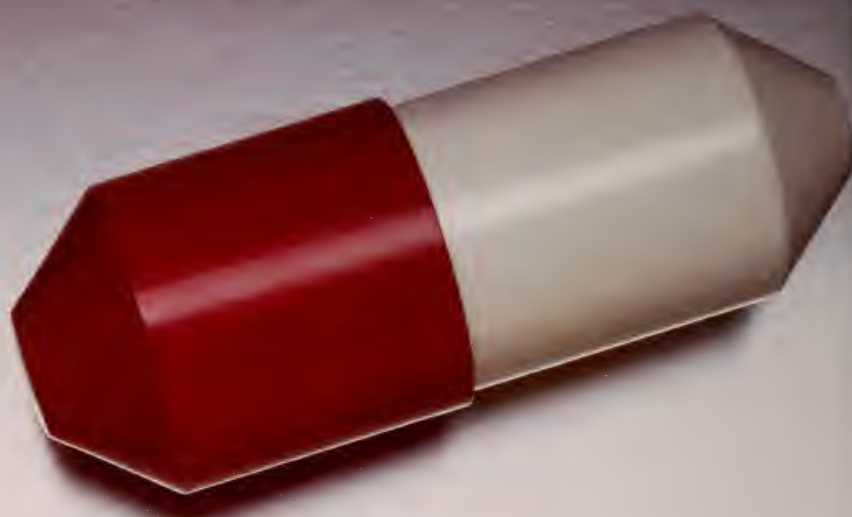
Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances, postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

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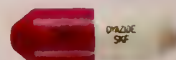
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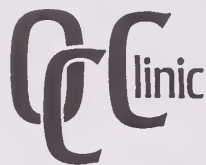
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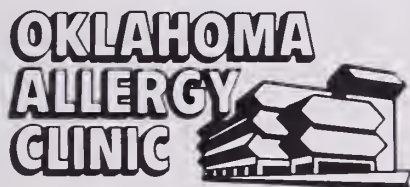
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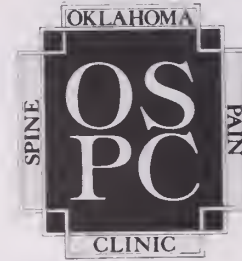
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Tradition, according to Webster's dictionary, means a long-established custom or practice that has the effect of an unwritten law; specifically, any of the usages of a school of art or literature handed down through the generations and generally observed.

Tradition enriches every aspect of our lives. We treasure the traditions of family, religion, and nations. A tradition that has fulfilling meaning to us as auxiliaries is Doctors' Day, March 30.

Doctors' Day is very special, designated to honor our physicians. It gives all auxiliaries and communities an opportunity to express our gratitude and appreciation for the number of hours, days, and years that physicians have dedicated to the art of healing.

For auxiliaries to understand the full impact of Doctors' Day, they must have knowledge of the rich history involved.

Mrs Eudora Brown Almond created the idea of having a day to honor the physicians of her community. She had been reared in a small community, where she was greatly impressed by her family physician. She had fond memories of this adored gentleman. Then, in 1920, Eudora married Dr Chasler B. Almond and moved to Winder, Georgia. She became convinced, as she journeyed with her husband through his many years of dedication to the art of healing, that medicine was the greatest profession on earth, and doctors the greatest heroes.

In 1933 Barrow County, Georgia, at the suggestion of Mrs Almond, adopted a resolution to pay lasting tribute to the county's doctors. The first observance of Doctors' Day was held March 30, 1933, by the Barrow County Auxiliary. Mrs Almond's dream of honoring her gentle childhood doctor and her beloved husband became a reality not only in the United States, but also abroad.

On March 30, 1842, a young physician, Dr Crawford W. Long, during a surgical procedure, administered sulphuric ether. In doing so, the 26-year-old physician revolutionized the field of surgery, enabling surgical procedures to be performed without agony and severe suffering.

Dr Long was held by his colleagues in very high esteem and was of fine character. He died at the age of 62 after practicing medicine for 40 years. He had once stated, "My only wish was to be known as a benefactor of my race." Thus, as a tribute to Dr Crawford Long, the discoverer of anesthesia, March 30 was established as Doctors' Day, the day to pay tribute to all physicians. The Southern Medical Association Auxiliary adopted the Doctors' Day resolution in 1935, and since that time Doctors' Day has been an integral part of their program.

Doctors' Day offers an excellent opportunity to further improve public relations for the medical profession. The Southern Medical Association Auxiliary recommends several excellent ideas to pay tribute to the medical men and women of our area:

(1) March 30 is the only date on which press releases are to be issued through any news media to pay tribute to the physicians of your community.

(2) Proclamations can be secured in your city or state for Doctors' Day. Some examples can be found in the *Handbook of Doctors' Day* that the county chairman of Doctors' Day will receive.

(3) Red carnations are the traditional symbol of Doctors' Day. Arrangements of carnations may be ordered for hospital lobbies, churches, offices, or graves of deceased physicians, or social functions can be given in honor of physicians.

(4) The Southern Medical Association Auxiliary is stressing complete physical examinations for all physicians this year. Encourage all your physicians to have a complete physical by developing a program, incorporating Doctors' Day, that will be successful in your community.

Let Doctors' Day be an enjoyable but meaningful tradition in your auxiliary. Strive to establish ideas and programs that will honor all the physicians (the young and the not-so-young) in your community. As an individual, remember physicians who have influenced your life. You might honor them with red carnations, a contribution to the medical field in their name, or a simple thank-you note.

We all, as members of the Oklahoma State Medical Association Auxiliary, have the opportunity and the privilege of paying tribute to the medical men and women who give outstanding contributions and achievements to the art of medicine.

Jan Storms (Bruce)
State Doctors' Day Chairman

■ **William E. McGuire, MD**, a board certified radiologist, has been elected chief of staff for Midwest City Memorial Hospital for 1984. Dr McGuire succeeds family practitioner Dr Keith I. Bernhardt. McGuire received his medical degree from the University of Oklahoma, where he also earned a degree in pharmacy. He has been a member of the hospital staff since 1975.

■ **State physicians can join the Army and serve at historic Fort Sill** for their initial tour of duty. The United States Army needs additional physicians, dedicated professionals who are willing to serve a tour to provide health care to the thousands of young soldiers and their families who deserve the best health care you can provide. Opportunities for additional professional training for career oriented individuals is available after a year of satisfactory service. Your country needs you. Call Col Jim Wilson, MD, (OU Class of 58) (405) 351-4021, Reynolds Army Community Hospital, Fort Sill. Also AMEDD Personnel Counselor (214) 767-0818.

■ **The public rated physicians more ethical** than lawyers, business executives, and members of Congress in a Gallup Poll conducted for the *Wall Street Journal*. Some 53% of the public rated the honesty and ethical standards of medical doctors very high or high; 35% rated them average; and 10% rated them low.

■ **Radionuclide angiography** is a highly sensitive method for determining heart function following blunt chest injuries, such as those sustained in auto accidents, according to a report in *Archives of Surgery*. In a prospective study of 35 patients, electrocardiogram abnormalities were detected in 8 patients, but radionuclide angiography abnormalities were seen in 26 patients. Further study was called for to evaluate long-term prognosis of such patients.

■ **"Why do pregnant women eat more?"** asks Richard L. Landau, MD, of the University of Chicago in a recent issue of the *Journal of the American Medical Association (JAMA)*. "Obstetricians sometimes need to caution and instruct pregnant women to restrict calories to avoid excessive weight gains," he says, and hypothesizes that these gains result from hormonal events that lower amino acid in the blood, which in turn reduces the perception of being full.

■ **Many antibiotic therapy studies** that physicians depend on for clinical guidance are so poorly done that their value is doubtful, according to a report in the *Archives of Surgery*. Researchers in England say that as many as 40 to 45 studies they reviewed were deficient in one or more areas, including defects in design, ethical errors, inappropriate statistical analysis, and sloppy presentation.

■ **The percentage of physicians** who support advertisement of fees in newspapers or on television or radio has risen from 8% in 1978 to 17% in 1983, an AMA survey reveals. Physician advertising has been noticed by 28% of Americans, according to the survey. Awareness of physician advertising is highest among high income earners (39%) and lowest among those who are 65 years of age and older (17%).

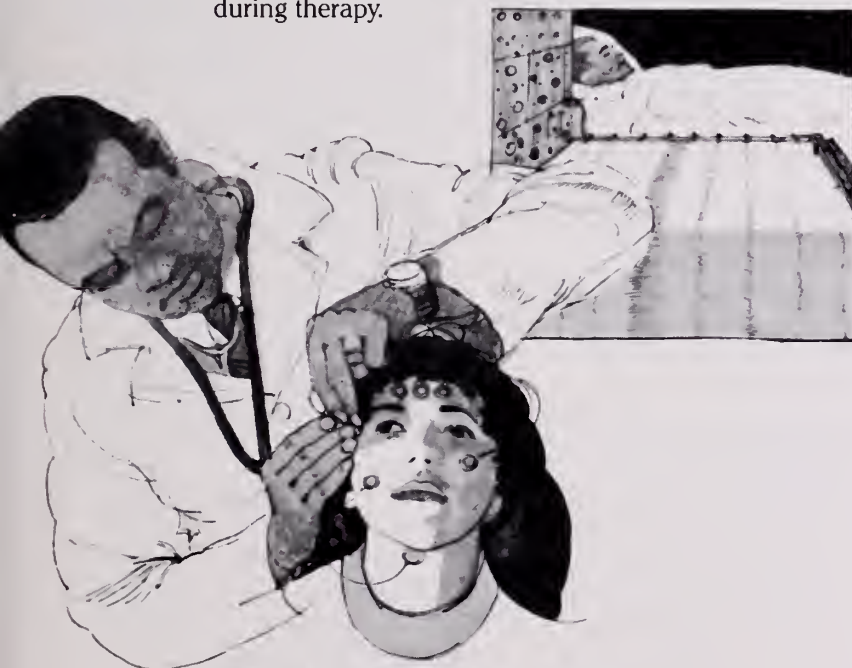
■ **The wrong combination of food and exercise** can induce a severe allergic reaction in sensitive individuals, it was reported recently. Researchers tell of a 24-year-old woman who experienced symptoms of systemic anaphylaxis following jogging after eating a peach or grapes. She was able to run without incident if she fasted for two hours before exercise. "Food-dependent, exercise-induced anaphylaxis has been reported in relation to ingestions of celery, shellfish, fruit, and a variety of solid foods. With the strong emphasis on physical fitness in our society, physicians may see additional patients with this syndrome," the report says.

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sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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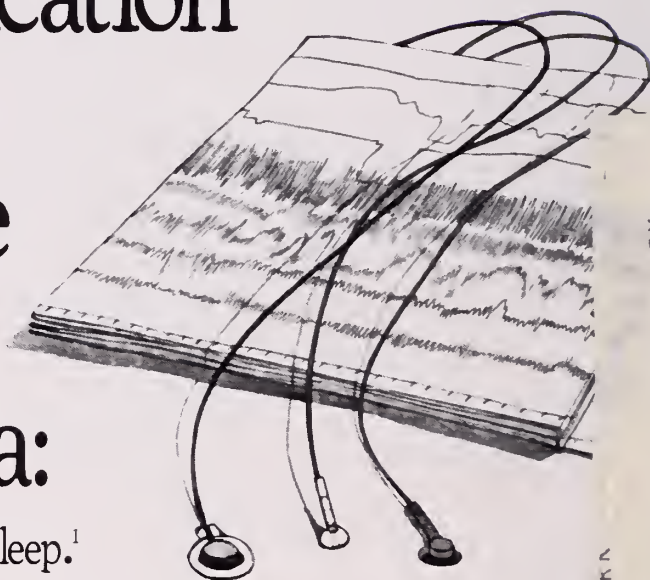
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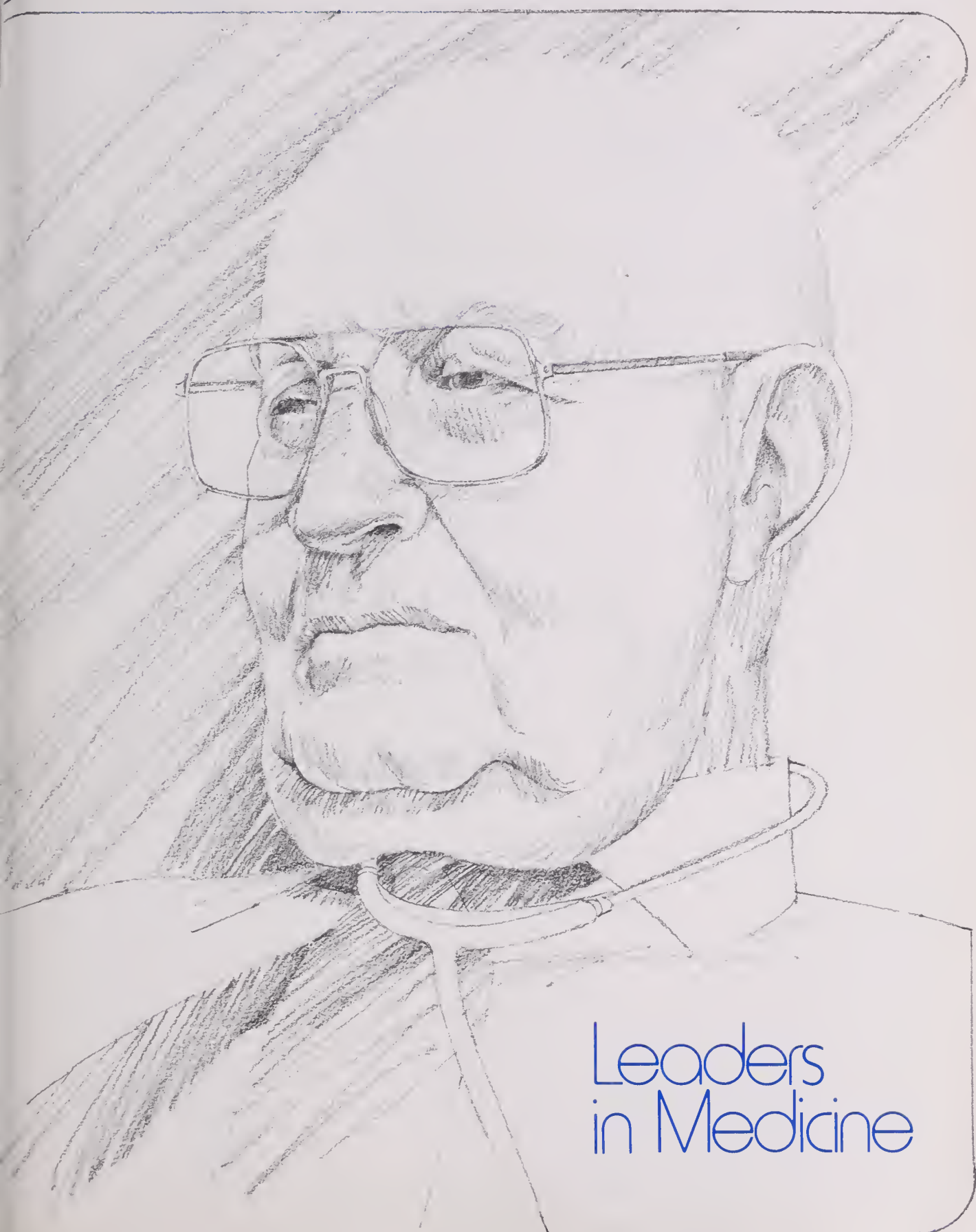
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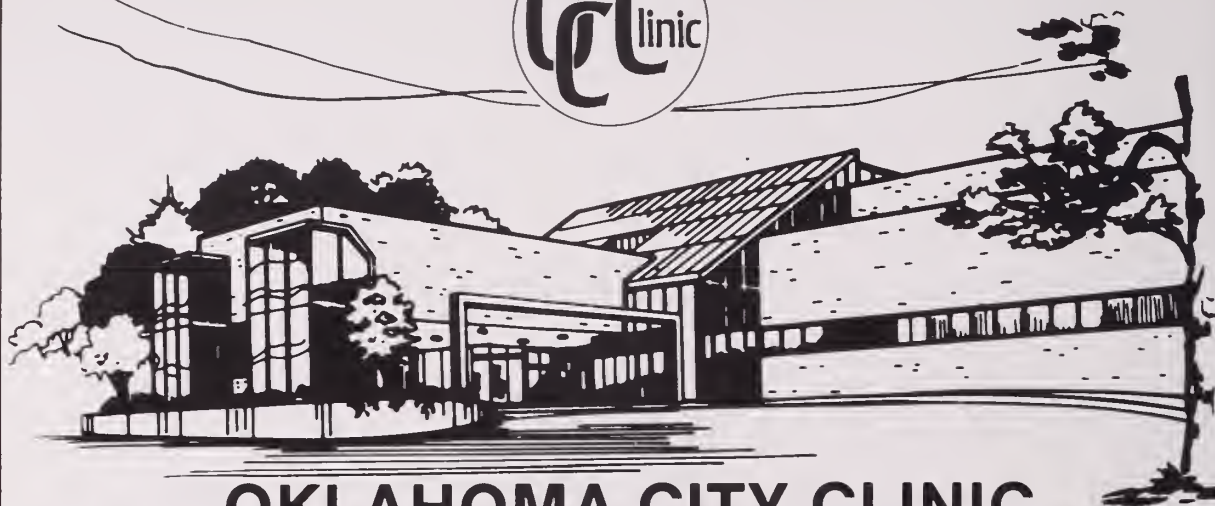
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On the cover: Malcom E. Phelps, MD
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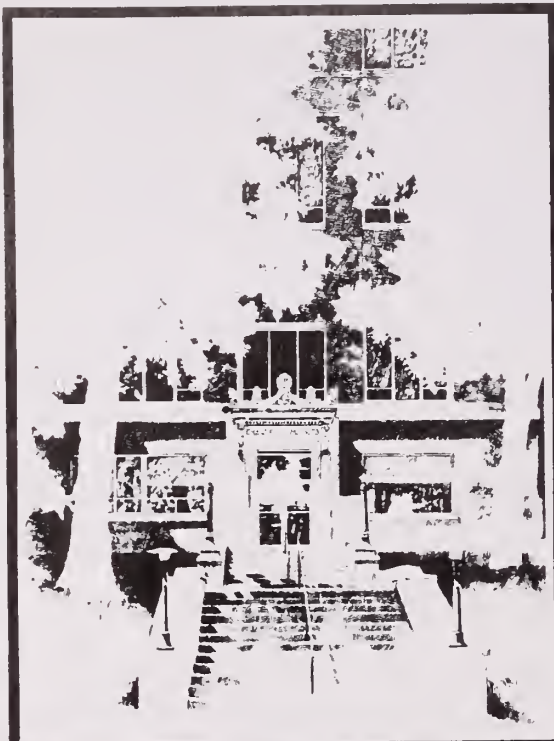
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BRIEF SUMMARY

PROCARDIA* (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: Excessive Hypotension: Although in most patients the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients; transient hypotension in about 5%; palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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"I can do things that I couldn't do for 3 yrs. including joining the human race again."



Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procordia nor will they all respond to the same degree.

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"My doctor switched me to PROCARDIA[] as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,¹ taking fewer nitroglycerin tablets,² doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



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PROCARDIA[®] **(NIFEDIPINE)** Capsules 10 mg

* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina
- 2) Angina where the clinical presentation suggests a possible vasospastic component
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

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Letter of Regret

Board of Directors
Our Community Hospital

Dear Members:

Twenty-two years ago I volunteered to work with many of you and most of my colleagues in this community to create our hospital. It was a long, difficult struggle but we succeeded in building, staffing, and equipping a hospital which has, for nearly a generation, provided a modern facility where excellent medical care has been available to all our citizens. I am proud of my part in this endeavor and do not regret a single one of the thousands of hours I have contributed to the operation of our hospital since the day we opened its doors.

Last week I was informed that you signed an agreement with an insurance company which, in effect, guarantees their policyholders a discounted rate of reimbursement for services obtained in our hospital. Although I was not party to the negotiations and am not well informed about the specific terms of the agreement, I do understand that it will transfer deficiency costs to all our patients who do not hold policies with the contracting insurance company.

As I see it, you have pledged the resources and possibly the solvency of our hospital to guarantee profits for an insurance company; you have compromised your responsibility and authority in the management of our hospital; you have increased the economic burden of hospital care for those least able to pay for it, and you have notified the salaried and volunteer staff members that they will be working, part time at least, for an insurance company instead of our patients.

As you know, no hospital can function, continue to be licensed, or maintain accreditation without the support of its medical staff. In the past twenty-two years I served as chief of staff for eight years, secretary of staff for six years, chairman of six committees, and a working member, at one time or another, of each of the ten standing committees of our hospital staff. In addition I have served on nine ad hoc committees, participated in two fund raising campaigns, and helped recruit and organize our hospital volunteers. Also, I re-

cruited or assisted in the recruitment of our pathologist, radiologist, neonatologist, and vascular surgeon. I have participated in every inspection visit made in our hospital by the State Health Department, the JCAH, and the Fire Marshall.

In all, I estimate that I have given more than 4,000 hours of my time to our hospital, and traveled more than 2,500 miles in its behalf. The majority of my colleagues on the staff have made similar contributions, and there are now twenty-eight of us.

Speaking for myself, I have never objected to the discounts you have given patients whose only resources were Medicare or Medicaid funds. I have never complained about the charity care we have provided. All of this has been largely justified and deserving of our relatively small sacrifices. However, I will not make sacrifices, nor will I ask my patients, my family, or my office staff to make sacrifices for the purpose of increasing the profits of an insurance company or any group owned or managed by a commercial enterprise. I must pay for their service and they must pay for mine.

Henceforth, for the reasons described above, I will no longer contribute my time assisting in the operation and maintenance of our hospital. I will continue to obey all rules and regulations of the hospital, the staff, and the Board of Medical Examiners. I will continue to care for and about all my patients whether or not they have insurance or any other resources. However, you will be billed my usual and customary fees for every hour or part of an hour I contribute to hospital functions and for every mile I travel doing hospital business.

May I suggest you consider these thoroughly justified expenses before establishing the discount rate you offer in your next bid for an insurance company contract?

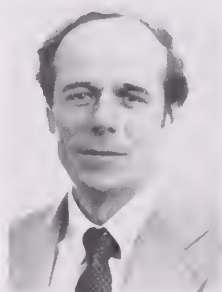
Incidentally, I wonder what's going to happen to our neighboring city's hospital. Almost all those people have policies with the company which has awarded the contract to us. I guess we'll be getting all those patients, and that might be good for us. On the other hand, if we lose money on every admission and all our beds are filled with patients whose bills are discounted . . . Gosh, it does get complicated, doesn't it?

With sincere regrets,

-MRJ

A Distant Target

There is probably some amendment to Murphy's Law which states that it is much easier to criticize a large organization at a distance than it is a small organization close to home. Certainly, this seems to apply in the real world of medical organizations. Each of us probably thinks of our own office as a smoothly functioning unit with excellent communications at all times, clear cut goals, and superb efficiency. By comparison, it is easy to criticize the function of the American Medical Association, an organization of some 250,000 physicians, headquartered in the distant city of Chicago. Our own county and state medical organizations are commonly thought of as being somewhere in the middle of this spectrum between shining efficiency and distant bureaucracy. What sort of physician, then, would place himself in the bulls-eye of targeted criticism as president of the AMA?



I recently had the pleasure of spending a day in Oklahoma City with Dr Frank Jirka, current president of the AMA. He is a leader of whom all physicians can be proud. His previous experiences in life seem to have prepared him uniquely to lead our profession in these difficult times. His grandfather was a prominent mayor of Chicago, and his father was a

successful family physician. Dr Jirka's severe wounds in World War II encouraged his life-long interest in rehabilitative medicine, and his past experience as president of the Illinois State Medical Association and as board member of the AMA have given him the experience necessary for his present task.

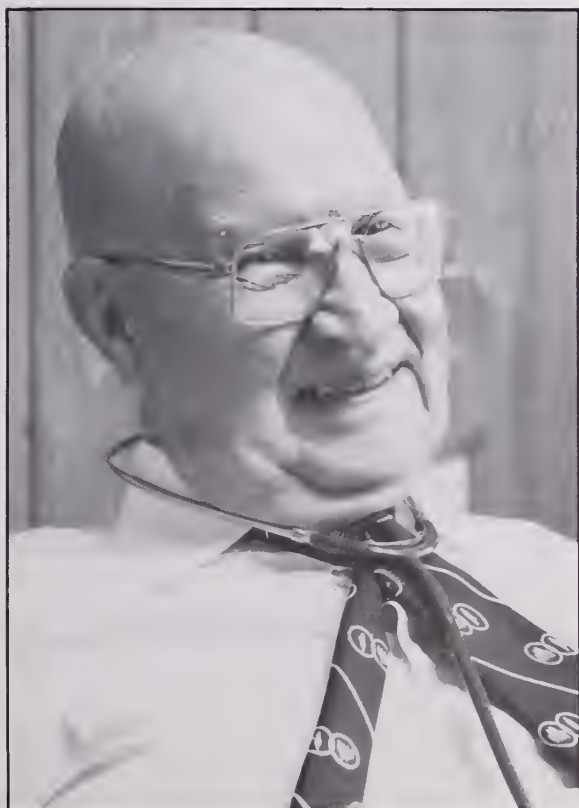
During a one-day visit, Dr Jirka thoughtfully discussed many of our Oklahoma medical issues and placed them in appropriate national perspective. He handled the questions and glaring lights at a press conference with smooth diplomacy and even good humor; interacted in an easy and informal manner with groups of medical students; knowledgeably questioned a research project in urology at the University of Oklahoma Health Sciences Center; and obviously made a very good impression on Governor Nigh during a visit to his office. He concluded the day with a speech to a group of professional women on the economics of medicine, and in his spare time he handled several administrative questions from the AMA headquarters in Chicago. Dr Jirka's schedule leaves him with only four or five days each month in his office practice, but he handles the demands of the job with great skill and patience.

Be assured, then, that our president of the AMA is a true medical statesman. He is entitled to our support as well as our *constructive* criticism.

George H. Kamp, M.D.

Leaders in Medicine — Malcom E. Phelps, MD

by JUDY LEITNER



Malcom Phelps has lived the kind of life that could easily be translated to the silver screen. But if you ask him, he will describe himself as a small-town boy who likes to travel.

His travels have taken the El Reno physician worlds away from his lifelong home in Canadian County, sometimes in service to his country, but more often to see as much of the world and its people as possible. Phelps, who has been practicing medicine in Oklahoma for more than 50 years, was born October 16, 1905, in El Reno, Indian Territory. He has grown up with his native state and witnessed firsthand many of Oklahoma's most important moments.

The son of a prominent early-day lawyer and judge, Dr Phelps was present at the dedication of the State Capitol. And one of his early childhood memories is traveling from El Reno to Oklahoma City for the dedication of Lake Overholser. The trip took the better part of the day, he recalls.

Phelps values highly the rewards of practicing medicine in a small community.

Leaders in Medicine (continued)

Dr Phelps studied pre-med at the University of Oklahoma from 1922 to 1926 but received his medical degree from the University of Iowa in 1929. He returned to Oklahoma for his internship and residency, which he took at the University of Oklahoma Hospital. In 1932, he served an additional year as an assistant in urology under W. J. Wallace, MD, Oklahoma City.

Upon completion of his medical studies, he established his practice in El Reno with his uncle, Joseph Phelps.

A founding member of the American Academy of General Practice (AAGP), Dr Phelps has always been in general practice and believes family practice is one of the most rewarding types of medicine.

"There is a feeling you get from contact with people in a small community and in a family practice that a doctor misses in other types of practice," he says.

"There are lots of rewards to it," Dr Phelps says of being a "country doctor." He singles out the close associations that usually form between a doctor and his patients.

"If I had it all to do over again I wouldn't do anything any differently," he adds.



Being a "country doctor" lets him establish with his patients the close ties that he considers so important in his work.

"And the more I travel the more I become aware of what a wonderful place this is," he says of El Reno.

His list of accomplishments is lengthy, but Dr Phelps is perhaps most proud of being part of the only father-and-son duo to be inducted into the state's Hall of Fame. His father, James, was an Oklahoma Supreme Court justice.

James Phelps boarded a northbound train the day after his graduation from law school at the University of Texas. El Reno was as far north as the train line ran at that time, and he decided to establish his law practice there, eventually specializing in probate law. He was a member of the state Supreme Court for 25 years.

Dr Phelps's mother, Lydia Malcom Phelps, was a school teacher in El Reno prior to statehood. She met her future husband soon after his arrival in El Reno.



His dark eyes sparkle with mischief when Dr Phelps describes his service to the US government in a variety of roles. Much of the time was spent "shooting the bull, passing the buck, and making 20 copies," he jokingly says.

His government service included a stint as a member of the Department of Defense Advisory Committee on Dependents Medical Care, two years as a special advisor to the Surgeon General of the US Army, a period as field director of the American Medical Association's Volunteer Physicians program in Vietnam, and six years as director, Vietnam Health Office for the Department of State, a position he held from 1968 to 1974.

Dr Phelps first went to Vietnam in 1966 as field director for the American Medical Association's Project Vietnam, a program in which American physicians volunteered their services to care for civilians in the war-torn country. More than 1,200 physicians volunteered for the program in which they served on a short-term basis, usually 60 days.

Dr Phelps acted as liaison for Project Vietnam volunteers and the State Department's Agency for International Development. He spent much of his time visiting the 16 provincial hospitals where Project Vietnam physicians were stationed, and he provided orientation for all project physicians.

"Usually we had at most at any one time 158 doctors to take care of 18 million people," he says, describing the magnitude of the chal-

His love of travel and devotion to both his country and his profession have taken Phelps abroad on numerous occasions.



lenge faced by the physician volunteers.

Of his service in Vietnam, Dr Phelps says service there offered American physicians an opportunity to "see more in two months than they could see in a lifetime of practice in the United States."

Calling Vietnam a medical museum, he says physicians could "see anything."

Physicians at one of the provincial hospitals saw 28,000 cases of plague. It was not unusual for hospitals to cope with an average of 150 childbirths a day and 5,000 civilian casualties a month.

At the height of Project Vietnam, there were 27 military teams of 17 members each attempting to care for the entire civilian population of Vietnam.

A project of such magnitude was possible only because of the "wonderful help from the military and the provision of supplies by the government."

Part of Dr Phelps's responsibility in Vietnam was to help establish medical school programs in which faculty members from medical schools in the US would help train Vietnamese health care professionals to care for their own people.

The Vietnamese government honored Dr Phelps for his contributions by decorating him with the Medal of Health First Class.

Dr Phelps directed the volunteer physician program for a year before returning to Washington, DC, and another assignment for the State Department.



Dr Phelps and his wife, Maxine, returned to El Reno in 1968, and he resumed his family practice. He still goes to his office each weekday morning except Friday to see his patients. He no longer takes new patients but continues to see patients that have been in his caseload many years. It is not unusual for him to treat grandchildren of patients he delivered.

He takes Fridays off because he usually is busy pursuing a longtime interest in dog shows. He is a sought-after dog show judge and spends many weekends flying around the country to judge dogs in competition.

For years he raised dogs, particularly boxers and bulldogs, as a hobby. He is a former president of the Oklahoma City Kennel Club and from 1958 to 1960 was president of the Bulldogs of America Association.



Dr Phelps's wanderlust developed early, and he began the travels which have taken him around the world nine times and to 86 coun-

Leaders in Medicine (continued)

tries. In 1936 he fulfilled a lifetime ambition, taking a trip on a banana boat.

Much of his travel was with perhaps his most well-known patients, several members of the Shepherd family, the pioneer Oklahoma family whose farm land became the site of an Oklahoma City shopping mall.

By the time the Shepherd family had amassed enough money to travel, they were elderly and in poor health. They asked Dr Phelps and his wife to accompany them on their trips and provide medical attention if needed. One of the Shepherd sisters, Edith, had suffered a stroke while on a trip to Stockholm, Sweden, and from that time on had always travelled with a physician and a nurse.

Though advanced in age, the Shepherds loved to travel to out-of-the-way places, Dr Phelps says, and were "game for most things."

The Shepherd family had such faith in Dr Phelps's judgment that they named him a trustee of the Shepherd Foundation, established to make charitable donations to worthwhile groups and projects. He served as president of the foundation.

The Phelps's home, on a quiet, tree-lined street in an older section near downtown El Reno, boasts treasures brought back from their globetrotting as well as a beautiful collection of antiques of which Mrs Phelps is especially proud.



Dr Phelps met his wife while they were both students at the University of Oklahoma in Norman. He says they dated a couple of weeks before eloping to Gainesville, Texas, to be married. He was 18 and she 17 at the time. "We were in love and we didn't know any better," he says.

Mrs Phelps continued her education and eventually graduated from the University of Iowa. In a strange set of circumstances the details of which are now forgotten, she actually received her masters degree before she received a bachelor's degree.

Mrs Phelps supported the family while Dr Phelps was serving his internship and residency. She worked in a secretarial job at the State Capitol for \$125 a month while he was making first \$10 a month as an intern and later \$25 a month as a resident.

When he went into private practice, Dr Phelps got \$2 for an office call and \$3 for a



Active in many professional associations, Phelps helped found the American Academy of General Practice in 1947.

"And I took care of the people; I never asked if they could pay, but that was before the government got into the business of telling us what to do."



housecall. He delivered babies for \$25, and, in those early years, most of his deliveries were in the home. Later, most were in the hospital; in fact, he ran a local obstetrical hospital for almost 15 years.



Recognized as a gifted surgeon, Dr Phelps gave up surgery about five years ago when problems with his vision became advanced. He has undergone three eye surgeries and now wears glasses with very thick lenses.

He began as a contract surgeon for the US Indian Service in 1938 at Oklahoma's Concho Indian School. He continued in that role until 1950.

He also was chief of staff at the El Reno Sanitarium, one of the oldest hospitals in western Oklahoma, from 1945 to 1954.

A great storyteller, Dr Phelps recalls being called to the federal reformatory near El Reno one night to see a patient who had been stabbed with a "shive." After successfully treating the patient, who had been bleeding profusely, the blood-spattered doctor became lost after leaving the infirmary area.

He was wandering around in the mazelike halls when he encountered a prisoner. Dr

Phelps asked the man, "How in the hell do I get out of here?" To which the man replied, "Mister, I've been trying to figure that out for 10 years."

Dr Phelps said he generally did not mind his work at the federal institution because he had a hand in equipping and ordering supplies for the facility, and it was usually well supplied.

He also worked at the Cheyenne-Arapaho Hospital, which generally was not as well supplied.



When Dr Phelps set up his practice in 1933, he shared offices with his uncle, continuing to practice with him until Joe Phelps's death. For a time he was in practice with Dr Riley Strong, his wife's cousin, and now practices with Dr Strong's son, Clinton.

For many years, his office was on the second floor of a downtown building but, as he vividly recalls, that office burned on December 23, 1943. "I watched it burn, sitting on the sidewalk in a chair my wife sent down."

Typical of his sense of humor, Dr Phelps remembers that after the fire his wife reminded him he had always wanted an office on the ground floor, "and it damn sure was then."

Leaders in Medicine (continued)

At that time medical supplies were almost impossible to obtain, Dr Phelps said. Other local physicians came to his rescue, providing office space, supplies, and equipment until he could find new office space.

He remodeled an old house which served as his office from 1944 until he relocated to the Park View Hospital office complex about six years ago.

He says he never considered anything but a general practice and never minded the constant interruptions of his family life. His family pitched in and helped answer the phone, and he often persuaded his two sons to remain at home in the evening to answer the phone. "We all worked together," he says.

His son Joseph is an Oklahoma City dentist, and son James is an attorney in Colorado. With their help, Dr Phelps says, "We never shut the telephone down, and I never refused to take a call at night."

He doesn't consider it extraordinary that he was on call 24 hours a day, seven days a week. "And I took care of the people; I never asked if they could pay, but that was before the government got into the business of telling us what to do."

**"Kindness,
courtesy, consideration
of others, and gentlemanly
conduct are always
in order . . ."**

◇

Another of Dr Phelps's longtime interests is flying. He bought his first airplane in 1932. "I needed it to get around you know, to medical meetings." He did not usually use it in his practice, but admits he has flown in to see patients in other areas.

"Usually we just loaded it up to go to foot-

ball games," the Sooner fan laughs. And he used to fly himself to dog shows around the country.

At one time, he owned seven airplanes, some of them military surplus, and he speaks of some of the planes as if they were good, old friends.

He no longer pilots his own craft, however, because "I have to admit I'm getting older," he confides.

His list of professional associations and memberships is an impressive one, but he is perhaps most proud of his role in helping to found the American Academy of General Practice (AAGP) in 1947, an idea that grew out of actions taken at the annual meeting of the American Medical Association (AMA) in Atlantic City that year. He served the academy as president in 1957, after being vice-president in 1955-56. He was treasurer from 1960 to 1966.

In honor of his election as president of the AAGP, Malcom Phelps Day was celebrated in El Reno on April 1, 1957. More than 300 persons from El Reno, Canadian County, and across the state gathered to honor him at a banquet presided over by local State Senator Jim Rinehart and attended by H.M. McClure, MD, then president of the Oklahoma State Medical Association (OSMA).

Dr Phelps also has long been active in the Oklahoma Academy of General Practice, serving as president from 1947 to 1949. He was the state's delegate to AAGP from 1948 to 1951 and received the state chapter's Distinguished Service Award in 1960.

In 1967, Dr Phelps was elected vice-president of the American Medical Association by the AMA's house of delegates. He has been an AMA member since 1931 and has often served as a state delegate.

A member of OSMA since 1931, Phelps was association vice-president in 1950 and has served on numerous association committees. In 1982 he was recipient of the A.H. Robins Service Award.

Of his election as AMA vice-president, Dr Phelps recalls he returned to the United States from Vietnam the day before the annual convention began, again in Atlantic City. He flew straight to the convention, and "before I knew what happened, I was elected."

He recalls his friends from the state association ran quite a campaign for his election, including serving buffalo meat, rattlesnake, and firewater in the group's hospitality suite.

From childhood, Phelps says, a family practice is all he ever considered.



He says serving as a delegate to the AMA became "kind of a hobby" with him, but it was one way he could try to improve the practice of medicine.

In the 1950s, Dr Phelps was a member of the National Advisory Committee on Polio-myelitis Vaccine, and he set aside a 23-bed polio ward in his hospital, one of the few treating polio victims outside of Oklahoma City and Tulsa.

In 1958 he made his first visit to the Far East, sent by the surgeon general as a consultant for the establishment of adequate medical care facilities. He and Mrs Phelps would return to that area of the world in 1961 and again in 1963 as tourists while traveling with the Shepherds.

Dr Phelps, who is not ashamed of his love of country, is proud to have served the government. "I think I did some good; of course, I had my own ideas, and I just tried to tell them about it," he says.

He was given the opportunity to inspect Walter Reed Army Hospital and assess the quality of care there as well as the overall operations. His guide for the inspection was Leonard Eaton, MD, who later became surgeon general.

He calls his government service a gratifying experience. "I've always been plain spoken," and he felt free to speak his mind because "I didn't ask for the job. They asked me to take it."

During part of his service he held the equivalent of the rank of two-star general. "I had luxury a lot of people didn't have, and it was fun to figure out ways to get things done without so much red tape."



Dr Phelps has a strong work ethic. He proudly relates working for 35 cents an hour while he was in college. He did manual labor, laying gas pipelines, and remembers being delighted when he worked up to 40 cents an hour.

Dr Phelps was able to combine his interests in aviation and medicine in one of his professional associations when in 1960 he was named to the nine-member medical advisory board created by the Federal Aviation Agency. He served on the board until 1966.

He has served his native state as well by serving on the Oklahoma Crime Commission. He was named by Governor Johnston Murray to the commission charged with studying juvenile delinquency.

Leaders in Medicine (continued)

Many of Dr Phelps's professional affiliations already have been listed. Other significant ones are trustee of the Family Health Foundation of America, beginning in 1958 and serving as president from 1958 to 1961; founding member and later member of board of directors of the American Board of Family Practice, where he also served as treasurer from 1972 to 1974; founding member and life Fellow of the Southwest Surgical Congress; member of the Southern Medical Association; member of the American Association of Railway Surgeons; member of the American Medical Writers Association; founding member and director of the Flying Physicians; member of the American Association of Physicians and Surgeons; member of the American Society of Clinical Hypnosis; and member of the American Board of Abdominal Surgery.



When interviewed on a particularly warm day last summer, Dr Phelps wore a necktie bearing the symbol of the American Academy of Family Practice. He called the writer's attention to

the tie and reiterated that a family practice is all he ever considered from "the time I was just a kid."

His personal philosophy is well expressed in his listing in *Who's Who in America*. It quotes Dr Phelps: "Kindness, courtesy, consideration of others and gentlemanly conduct are always in order regardless of circumstances. These attributes are present in those we admire and respect the most. Rudeness, arrogance and lack of consideration of others are often apparent in insecure individuals with an inferiority complex and are rarely seen in individuals of stature."

The thousands of patients treated by this small-town boy who grew up with his community and his state would say he meets the qualifications of an individual of stature. □

Judy Leitner, 3505 Meadowbrook Drive, Midwest City, Oklahoma 73110.

Photographs by Donald Norris.

Judy Leitner has been a writer and reporter for numerous publications in Oklahoma and in Washington, DC. She is a 1969 graduate of the University of Oklahoma School of Journalism and served as chairman of the Oklahoma State Capitol press corps in 1977 and 1978.

Nutrition for the Practitioner I

Balanced Calorie-Restricted Diets and Carbohydrate-Restricted Diets

BEVERLY WILLIAMSON, MS, RD
STEPHEN R. NEWMARK, MD

Nutritionally balanced weight-control diets remain the standard to treat obese patients. Carbohydrate-restricted diets, however, frequently lead to medical disorders such as metabolic acidosis and fluid and electrolyte depletion.

The majority of obese people fail to respond to traditional medical treatments based upon reduced-calorie diet prescriptions.¹⁻⁷ As a result, a significant number of diet counselors have developed diet regimens promising rapid weight loss with subsequent renewed health and vigor. In a sense, the medical establishment has given impetus to the growth of multiple diets with its inability to offer highly successful alternatives. To compound the problem, many diet regimens rely on nutritional misconceptions or false information, and in addition, a number of these weight reduction programs may produce detrimental side effects: ketosis, fluid and electrolyte depletion, dehydration, cardiac arrhythmias, and malnutrition.

The prevalence of obesity and the health

problems associated with obesity make it imperative that safe, efficacious weight reduction methods be identified and appropriately implemented.

Weight reduction diets can be divided into six major categories: calorie-restricted regimens, low-carbohydrate diets, novelty diets, formula diets, total fasting, and protein-sparing modified fasts. Each category represents a different approach to weight control, but all rely on a reduced calorie intake to produce weight loss.

This review will examine the common dietary treatments for obese subjects utilizing balanced restricted-calorie and low-carbohydrate or ketogenic diets.

Calorie-Restricted Diets

The classic calorie-restricted weight reduction regimens limit the total daily calorie intake to fewer than 1,600 kcals/day. The parameters frequently used to assess the appropriate calorie level for a patient include sex, age, activity level, degree of obesity, and the previous history of weight control efforts by the patient. Frequently, the obese individual selects a diet without proper considerations of the above var-

lables. A diet too restrictive in calories may induce excessive hunger; a diet extremely generous in calories may create a weight gain. Neither alternative is acceptable and can lead to noncompliance.

Patients following a calorie-restricted regimen should be provided with information regarding the nutrient and calorie content of a wide selection of foods. Several calorie-restricted plans provide detailed food exchange lists to assist the patient in choosing low-calorie, nutritious foods.⁷⁻¹⁵ In addition to the acquisition of knowledge about nutrient requirements, the patient must be able to plan

**A number
of these weight reduction
programs may produce
detrimental side
effects.**

meals in advance, develop appropriate food selection skills, weigh or measure food portions accurately, and prepare foods while avoiding the addition of high-calorie condiments. However, the success rate of these calorie-restricted programs has been quite low in the past (as only 20% to 25% of patients lose more than 20 pounds), especially for those patients who are more than 30% over their ideal body weight.²⁻⁶

Popular calorie-restricted diets (Table 1) can be divided into two classifications. One group of diets stems from the Prudent Diet developed by Norman Joliffe.¹⁰⁻¹³ The second group includes those diets based on nutritional misconceptions.

The Prudent Diet, introduced in 1957, was planned for the Anti-Coronary Club founded by the New York City Health Department. The original diet, not intended to be a weight-reduction regimen, provided 2,000 to 2,700 calories, was lower in cholesterol, carbohydrate, and saturated fat, and higher in protein than the typical American diet.⁸⁻⁹ The allowed foods were grouped into categories similar to diabetic exchange lists. Members of the Anti-Coronary Club who adhered to the diet lost weight and demonstrated decreased blood

pressure and a decreased incidence of myocardial infarctions when compared to control groups.⁸ Encouraged by the success of the original Prudent Diet, the New York Health Department developed a decreased-calorie dietary regimen while maintaining the original emphasis on a low-cholesterol, low-saturated fat, and moderate carbohydrate intake.⁸⁻¹¹

Variations of the Prudent Diet soon began appearing in the popular press. "The Wise Woman's Diet," compiled by George Christakis and published by *Redbook* magazine, increased the fat content of the Prudent Diet.¹² *Redbook* editors included dieting "tips," similar to those used by behavior modification specialists.

The Wine Diet added one glass of dry wine at dinner to the basic low-calorie Prudent Diet.¹³ Salvatore P. Lucia, the physician who developed the diet, proposed that a single glass of wine would decrease appetite, thus lowering total caloric intake.

The Yogurt Diet, prepared by a yogurt manufacturer, provided for liberal use of their product without fruit.¹⁴ The seven-day set of menus suggested by the Yogurt Diet Plan is relatively high in protein but maintains a lower content of cholesterol, saturated fat, and refined carbohydrate. Menu plans were developed for two calorie levels, 900 to 1,000 calories and 1,500 to 1,600 calories.

Lawrence Lamb, a syndicated columnist, published a 1,300- to 1,400-calorie diet that was nutritionally balanced and had a decreased content of saturated fat and cholesterol.¹⁵⁻¹⁶

The Astronaut's Diet, developed by the medical director of NASA, was a 1,250-calorie Prudent Diet without alcohol or concentrated sugar sources.¹⁷ The major emphasis of the diet was placed on portion control and moderation.

The *Ladies Home Journal* Diet, published frequently in the magazine, is a 1,200-calorie Prudent Diet.¹¹ The allowed foods are grouped into units, very similar to the diabetic exchange lists.

The Prudent Diet and its successors have been used by physicians for over two decades, although minimal research has been conducted verifying the efficacy of the Prudent Diet's offspring. All of these regimens are nutritionally complete in the recommended daily allowances for carbohydrate, protein, vitamins, and minerals and can be used by the majority of obese patients. Most of these diets provide a calorie level of 1,200 calories per day and do not require a vitamin and mineral supplement if the

foods are selected carefully and if the food exchange lists prescribed by these programs are indeed used by the patient.

The Anti-Cellulite Diet is an example of a low-calorie regimen designed to eliminate fat that is in "lumpy, immovable pockets just beneath the skin."¹⁸ Cellulite, according to Nicole Ronsard, the author, is not normal body fat. This fatty substance is said to contain toxic wastes. Cellulite is not medically recognized as being distinctive from normal body fat. Nevertheless, cellulite is now a universally under-

stood term for "lumpy, disfiguring" pockets of fat. The diet can be a well-balanced nutrition program if planned according to recommended daily allowance (RDA) for nutrients. There is no specified calorie level, but a typical menu for one day contains approximately 1,200 calories. Preferred foods include fruits, vegetables, milk products, eggs, lean meat, and dried brewer's yeast. Breads and cereals are eliminated from the diet. Salt and caffeine-containing beverages are also restricted.

(continued on next page)

Table 1. — Calorie-Restricted Diets

Name	Range/Day	(gms)	(gms)	(gms)	Effects	Comments
Prudent (Norman Joliffe, MD)	2,000-2,700	252-257	138-156	64-75	—	Nutritionally well balanced. Low cholesterol & saturated fat; 7%-8% Total Calories as saturated fats. Moderate CHO intake.
New York Health Dept Diet	1,200 or 1,800	110-125 125-135	75- 77 98-103	50-60 70-75	—	Low cholesterol and saturated fat diet. Moderate CHO. Nutritionally adequate.
Wise Woman's Diet (George Christakis, MD)	1,200	135	75	40	—	Low cholesterol and saturated fat. Nutritionally well balanced. Several ethnic menu plans included.
Wine Diet (Salvatore P. Lucia, MD)	1,200	110	75	50-60	—	Low cholesterol & saturated fat. Includes 4 oz wine with dinner. Nutritionally well balanced.
Yogurt Diet (Dannon Yogurt)	900-1,000 or 1,500-1,600	100	50-55	45-50	—	900-1,000 kcal regimen includes a vitamin/mineral supplement. Low cholesterol & saturated fat. Liberal use of plain yogurt, 2-3 8-oz servings per day. Nutritionally well balanced.

(table continued on next page)

Low-Carbohydrate Diets

A typical low-carbohydrate diet (Table 2) contains over 90 grams of protein, 90 to 100 grams of fat, and 20 to 40 grams of carbohydrate.¹⁹⁻²³ The most common side effects of low-carbohydrate diets are ketosis and metabolic acidosis.²⁴ Dehydration, nausea, postural hypotension, reduced uric acid clearance, hypo-

natremia, renal insufficiency, and urolithiasis are documented clinical problems associated with a ketogenic weight-reduction program.²⁴⁻²⁷ The elevated saturated fat and cholesterol content of the diet tends to increase serum cholesterol and alpha-lipoprotein levels.²⁸

The relatively high protein content of ketogenic diets may produce complications, such as decreased renal tubular reabsorption of calcium, that could promote osteopenia with an increased risk of osteoporosis in the elderly pa-

Table 1. — Calorie-Restricted Diets (continued)

Name	Range/Day	(gms)	(gms)	(gms)	Effects	Comments
Dr Lawrence Lamb's Diet (Lawrence E. Lamb, MD)	1,300-1,400	150	90-100	40-45	—	Food exchange list with point system used to select diet(s) low in calories, saturated fat, cholesterol, total fat or with appropriate P/S fat ratio. Nutritionally well-balanced diet.
Astronaut's Diet (Malcolm Smith, MD)	1,250-1,300	111	94	55	—	High protein. Moderate CHO and fat. Low cholesterol & saturated fat. Nutritionally adequate.
Ladies' Home Journal Diet (Krehl, MD; Rubin, MD; Glenn, MD)	1,200	80-85	80	45-50	—	Food selection is based on a unit system similar to diabetic exchange list. No alcoholic beverages. Low cholesterol & saturated fat. Moderate CHO. Nutritionally adequate.
Anti-Cellulite Diet (Nocole Ronsard)	1,200-1,250 (based on sample menus; no prescribed calorie level)	115	79	50	Deficient in iron; may be deficient in B ₆ and zinc based on sample menus.	High fiber, 11-12 gms per day. High cholesterol. Possible to achieve a fairly adequate nutrient intake with knowledgeable planning. Cellulite is no different than normal body fat.

tient. A low calcium intake, characteristic of many ketogenic diets, may also contribute to negative calcium balance.²⁹

Low-carbohydrate diets have been used as weight-reduction regimens for over 130 years. In 1856, William Harvey, an English surgeon, prescribed a strict nonfarinaceous and non-saccharine diet for an obese patient.³⁰ Harvey had attended a seminar on the dietary treatment of diabetics and the discovery of glucose. From the seminar information, Harvey surmised "that excessive obesity might be allied to diabetes as to its cause, . . . and that if a purely animal diet were useful in the latter disease (diabetes) a combination of animal food with such vegetable diet as contained neither sugar or starch, might serve to arrest the undue formation of fat."³¹ Harvey advised his patient to abstain from consuming quantities of bread, butter, milk, sugar, potatoes, and beer. Other than beer, alcoholic beverages were allowed, the belief being in 1856 that alcohol was entirely excreted by the body. The patient was to consume at least 24 ounces of meat per day, and no mention was made of trimming the fat. William Banting, the obese patient, lost 46 pounds in one year and published a popular paper, "Letter on Corpulence," praising the benefits of the diet.^{17,30} The Banting Diet became extremely popular; however, several revisions later, the diet was no longer identifiable as the high-protein, high-fat, low-carbohydrate regimen prescribed by Harvey, and the diet faded from public view.

History repeated itself in 1944, as the Banting Diet surfaced in New York City under the guidance of Blake Donaldson.^{17,30} Donaldson's prescribed diet for obesity included 24 ounces of meat per day, one-fourth of which, by weight, was to be fat and three-fourths lean meat. A limited amount of carbohydrate foods was allowed. Donaldson achieved mild success with his patients and planted the seed for further experimentation with the ketogenic diet regimen.

Donaldson's treatment protocol for obesity found a supporter in 1954, A.W. Pennington, director of the medical division of Du Pont de Nemours and Company. Pennington published an article in the *American Journal of Digestive Diseases* suggesting that, "Here was a treatment that, in its encouragement to eat plentifully, to the full satisfaction of the appetite, seemed to oppose not only the prevailing theory of obesity, but in addition, principles basic to the biological sciences . . ."³² A litera-

ture search on obesity treatments led Pennington to conclude that, "obesity, in most cases, is a compensatory hypertrophy of the adipose tissues, providing for a greater utilization of fat by an organism that suffers a defect in its ability to oxidize carbohydrate."³³ A dietary treatment for obesity was proposed to include at least eight ounces of meat three times a day (24 oz) with additional beef suet. A limited amount of carbohydrate was allowed in the form of rice, potato, or fruit; no portions of bread, flour, sugar, or alcohol were to be consumed. The diet plan also stressed increased water consumption between meals.

The relatively high protein content of ketogenic diets may produce complications.

Herman Taller published *Calories Don't Count* in 1961.²³ The goal of this dietary program, to consume adipose tissue stores, was to be facilitated by a new nutrition principle. The new nutrition "principle" was that the consumption of polyunsaturated fats produced fat oxidation in adipose tissue. Taller recommended consumption of one to two tablespoons of safflower oil before every meal.

The low-carbohydrate, high-protein, high-fat diet did not achieve enormous popularity until 1972 and the publication of *Dr. Atkins' Diet Revolution*.¹⁹ The "revolution" was the conversion of the body's metabolism from a carbohydrate-burning to a fat-burning system. This metabolic conversion was facilitated by a "Fat Mobilizing Hormone," the release of which was said to be caused by the consumption of a low-carbohydrate diet. Atkins further explained that the state of ketosis is highly desirable and necessary for weight loss to occur. The weight maintenance program was relatively simple; determine the critical carbohydrate level at which ketosis develops and eat no more carbohydrate than is required to maintain a ketotic state. Dr. Atkins' diet continues to be extremely popular, as evidenced by the frequent reprints of his book and the success of his new book, *Dr. Atkins' Nutrition Breakthrough*, which proposes how several dis-

Table 2. — Low-Carbohydrate Diets						
Name	Calorie Range/Day	CHO (gms)	Protein (gms)	Fat (gms)	Side Effects	Comments
Calories Don't Count Diet (Dr Herman Taller)	No calorie restriction	—	—	—	—	Proposed that safflower oil melts fat.
Dr Atkins' Diet Revolution (Robert C. Atkins, MD)	No calorie restriction (Sample menus provide 1,200-1,300 kcals/day)	20-40	90	90-100	Ketosis Hypercalciuria Hyperuricemia Hypercholesterolemia Dehydration	Nutritionally imbalanced. High cholesterol & saturated fat.
Doctor's Quick Weight Loss Diet (Irwin Stillman, MD)	No calorie restriction (author states intake is 1,500-1,800 kcals)	20	180-216	85-100	Ketosis Hypercalciuria Hyperuricemia Hypercholesterolemia Dehydration	Possible to consume 1,200 gms cholesterol/day. Prescribes drinking 8 glasses of water/day.
Three Week 555 Diet (Irwin Stillman, MD)	555	36-40	37-40	20	Ketosis Short duration of diet will not produce other detrimental side effects associated with long-term usage of ketogenic regimens.	Deficient in niacin, thiamin, riboflavin, calcium, and iron. Rapid weight regain (water and possibly lean muscle tissue) following diet.
Doctor's Quick Weight Loss Beauty Diet (Irwin Stillman, MD)	500-600	60	45-50	13-15	Moderate ketosis. Multiple nutrient deficiencies if followed for extended time period. Electrolyte imbalances.	Diet is based on a 2-day cycle to be followed for 3 weeks. With the exception of protein and vitamin C, nutrient intake fails to achieve RDA for adults.
Scarsdale Diet (Herman Tarnower, MD)	No calorie restriction (Typical intake is 1000 kcal, according to author)	80-85	100	25	Possible dehydration related to rapid diuresis with limited fluid intake & restricted sodium Mild ketosis.	2-week regimen promising rapid weight loss. Deficient in iron, vitamin A, calcium, and riboflavin. Inadequate intake of breads, cereals, & dairy products. Low sodium. Fluid intake restricted.
Air Force Diet (Bonomo Culture Institute, Inc.)	No calorie restriction (Nutrient levels based on 1,500 kcal)	55-60	120	85-90	Moderate ketosis. Electrolyte imbalances.	Limited calcium intake secondary to lack of dairy products. Nutritionally imbalanced.

ease states can be treated and ameliorated by the diet.³⁴

Irwin Stillman published his version of the ketogenic diet, *The Doctor's Quick Weight Loss Diet* in 1967.²² The diet allows generous portions of lean meats, poultry, fish seafood, eggs,

and low-fat cheeses. Breads, pastries, alcohol, ice cream, milk, and carbonated beverages are to be avoided. There is no calorie restriction. Stillman prescribes a fluid intake of at least eight glasses of water per day.

Two additional Stillman diet plans, low in

both carbohydrate and calories are the "Three Week 555 Diet" and "Dr. Stillman's Quick Weight Loss Beauty Diet."^{22,35} The former diet contains 555 calories per day, the latter between 500 and 600 calories per day. Both diets are low in carbohydrate and deficient in niacin, iron, thiamin, riboflavin, and calcium. Food choices are limited to lean meats, milk, and a vegetable or fruit.

The most recent addition to the ketogenic regimens is the "Scarsdale Diet," developed and published by Herman Tarnower in 1977.²⁰ The diet plan consists of several one-week menus designed to satisfy a variety of tastes: vegetarian, continental, gourmet, and economy-minded. The dieter must adhere strictly to the menu pattern and sequence for two weeks. No alcoholic beverages are allowed. The diet plan is maintained for a two-week period and is followed by a Keep Trim Program. Weight loss is stated to be an average of one pound a day and 20 pounds or more in two weeks. Tarnower states that "more than 90% of these patients, once trimmed down, have maintained their desired weight."²¹ However, no specific data are available.

Several other low-carbohydrate, high-protein, high-fat diets have been published in recent years and continue to enjoy moderate success. The Air Force Diet, not endorsed by the US Air Force, does not limit calories and maintains a carbohydrate level below 60 grams per day.^{17,35} The Drinking Man's Diet allows alcoholic beverages at the expense of food in order to maintain a low carbohydrate intake.¹⁷ The Boston Police Diet totally eliminates carbohydrate, specifies a high protein intake, and encourages the use of thyroid tablets.^{17,36}

Aside from the published side effects, data on the efficacy of the above diets are almost totally lacking.

Because of the documented complications and deficiency states that can be produced by many of these diets, many authorities recommend limited use of ketogenic programs. □

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Nutrition and Metabolic Support Center, Saint Francis Hospital, Tulsa, Oklahoma 74177.

Beverly S. Williamson, MS, RD, is a registered dietitian and a member of the American Dietetic Association. She is a 1979 graduate of the Texas Women's University, Denton. She currently resides in Wichita Falls.

Stephen R. Newmark, MD, is associate professor of medicine, University of Oklahoma Tulsa Medical College, specializing in endocrinology and metabolism. He was graduated from the University of Pennsylvania School of Medicine in 1969. Newmark is a Fellow of the American College of Physicians and American College of Nutrition. He holds memberships in many professional organizations including the Endocrine Society, American Diabetes Association, and the American Institute of Nutrition.

Ergotism As a Cause of Acute Vasospastic Disease with Features Mimicking Severe Atherosclerosis

DAVID ABERCROMBIE, MD
W.H. OEHLERT, MD

Chronic and/or excessive ergotamine use can mimic vasospastic and atherosclerotic disease and the history can be very difficult to obtain.

"Migraine headaches" are a frequently encountered medical problem and acute vasospastic disease caused by chronic ingestion of ergotamine tartrate and caffeine suppositories is a potential complication of treatment. A lesion with features of severe atherosclerosis was noted on physical examination and cineangiography in the brachial artery and was not apparent at surgery. The patient had a history of prolonged Cafergot ingestion, the magnitude of which was obtained only with repeated history taking. Awareness of this problem may lead to earlier diagnosis and treatment in patients on ergotamine therapy.

Case Report

A 36-year-old white male was admitted to Baptist Medical Center with a history of approxi-

mately four weeks of intermittent acute episodes of coldness and cyanosis of his right hand, accompanied by numbness and tingling lasting for several hours at a time. He also noted two episodes of syncope, each lasting approximately two hours and occurring seven and four weeks prior to admission. He denied prodrome or sequellae; specifically he noted no blindness, dysarthria, aphasia, paresthesia, or paralysis. Review of systems was significant for a ten-year history of hypertension treated with prazosin, 1 mg bid, and a long history of migraine headaches treated with Cafergot (ergotamine tartrate, 1 mg, plus caffeine 100 mg) suppositories as needed.

On physical examination prior to admission, a bruit had been noted over the right brachial artery. Neurologic workup including EEG, CAT brain scan, five-hour glucose tolerance test, and glycosolated hemoglobin was negative. Outpatient arteriography had revealed a 3 cm, ragged, severely obstructing lesion of the right brachial artery just proximal to the antecubital fossa. On admission patient was noted to have a left arm blood pressure of 190/120 mmHg. He continued to have intermittent hypertensive episodes during hospitalization. Cardiovascular examination re-

vealed a regular rate and rhythm without murmurs or gallops. Vascular examination disclosed absent right brachial, radial, and ulnar pulses, without a brachial artery bruit, with two plus pulses in other peripheral arteries. The right arm was cool distal to the elbow but without cyanosis. On the day following admission, the patient was taken to surgery where a 7.5 cm segment of the right brachial artery in the area of the previously noted abnormality was exposed. The vessel was found to be of relatively small caliber, but there was no arterial disease noted at that time. The diagnosis was vasospastic disease, and the patient was discharged shortly thereafter in good condition. He was instructed to continue taking prazosin, 2 mg tid, and nifedipine, 20 mg tid.

Following discharge the patient's blood pressure remained in the normal range. He experienced some nausea and headache, but otherwise no symptoms. A vanillylmandelic acid assay was performed and was normal.

The patient was next admitted to Baptist Medical Center approximately six weeks following the previous discharge. He had been seen one day prior to admission in a local emergency room, where he was noted to have a blood pressure of 270/150 mmHg and a cool, mottled, extremely painful right hand. He was

The patient had a history of prolonged Cafergot ingestion.

given two intramuscular injections of hydralazine, and a median nerve block was performed for pain control. On recurrence of pain, nitroprusside drip was begun, with resulting improvement; his blood pressure returned to normal, and he was transferred to Baptist Medical Center. On admission via Baptist Medical Center Emergency Room, he was noted to have pallor of his right hand with mottling distal to the proximal palmar crease. His fingers were cyanotic but showed adequate capillary refill. His pain was severe and unremitting but responded to morphine sulfate. At that time he was noted to have a blood pressure of 150/68 mmHg. He stated he had had occasional episodes of moderate pain since the previous admission and had also noted poor grip and difficulty writing with his right hand.

Physical examination by the admitting physician disclosed a left arm blood pressure of 168/77 mmHg with a pulse of 92 mm. HEENT findings were within normal limits; specifically, no vasospasm was seen in the fundi. Heart rate and rhythm were normal. Pulses were two plus with the exception of the right brachial and radial pulses, which were not palpated. The right arm was noticeably cooler than the left distal to the elbow. No cyanosis was noted. The remainder of the findings on examination were within normal limits; specifically, the lower extremities disclosed no cyanosis, pallor, mottling, or decrease in sensation.

A painstaking history was obtained again, and the patient's approximately 20-year experience of recurrent, severe, right-sided migraine headaches was reiterated. These headaches had become an increasing problem over the preceding ten years and at the time of admission could occur as often as once per week and last 12 to 48 hours. They were dull and constant in character, and accompanied by marked nausea and vomiting. The patient was extremely fearful of his headaches, and admitted to using up to 12 Cafergot suppositories per week (maximum recommended dose 5 per week). This gave him a degree of relief similar to that provided by intravenous Demerol. The last suppository had been used the day prior to the most recent onset of hand pain. The patient was maintained on Nitroprusside drip the first day in the hospital and subsequently weaned. Reserpine was added to the antihypertensive regimen of nifedipine and prazosin. A gradual improvement in symptomatology and blood pressure (maintained in the range of 150/70 mmHg) occurred and he was discharged three days after admission with instructions not to use Cafergot suppositories or smoke cigarettes.

Discussion

The naturally occurring ergot alkaloids, ergotin, ergotoxine, and ergotamine, are derived from *Claviceps purpurea*, a fungal parasite of the wheat and rye plants. All have a powerful smooth muscle stimulatory effect; this overrides simultaneous peripheral vasodilatation caused by a mild alpha-adrenergic blocking action. Ergot intoxication can produce intense vasoconstriction of the arteries of the brain, alimentary canal, and peripheral vasculature. Periodic epidemics of ergotism in Europe and Asia during the Middle Ages were known as

Ergotism (continued)

"St Anthony's Fire," and actual gangrene and even death occurred. Symptoms tend to occur in three groups: (1) Central nervous system symptoms secondary to constriction of cerebral vessels include visual changes, headaches, paresthesias, muscle spasms, psychosis, and convulsions; (2) gastrointestinal symptoms include cramping, emesis, and diarrhea; (3) and peripheral vascular symptoms include pain, with intense sensation to heat and cold (St Anthony's Fire), and gangrene. Occasionally even residual anesthesia and muscle contraction are noted following severe peripheral vasoconstriction. A significant degree of elevation of blood pressure is an invariable accompaniment.

The ergot alkaloids, generally ergotamine, are used medically for treatment of migraine headaches and uterine bleeding. Patients tend to overuse the drug when seeking relief from migraine headaches, because of the severe pain and disability associated with them. In Europe, it is sometimes used in combination with heparin as prophylaxis against thromboembolism.^{2,3,4} Dihydroergotamine 0.5 mg in solution with heparin 5,000 units is given over a period of eight hours, used especially in hip replacement or other musculoskeletal surgery of the limbs. The rationale behind this treatment is to decrease vessel caliber, and thereby increase velocity of blood flow.

Injection of ergotoxine into the breast muscles of roosters produces gangrene of the comb.¹ Lewis notes three stages of intoxication: (1) cyanosis from which recovery is rapid, (2) deep purple coloration without blanching when pressure is applied, and (3) frank necrosis. He notes necrosis rarely occurs without thrombosis and theorizes that it is not secondary to spasm directly, but occurs after progression of spasm to endarterial damage, fluid loss through vessel walls, and then thrombosis.

Symptoms may be abrupt or gradual in onset and may be secondary to large single doses or small to repeated moderate doses.⁵ Findings include coldness, cyanosis, and absence not only of peripheral pulses but also of pulses of the large arteries. Complete absence of femoral pulse with severe bilateral ileofemoral spasm has been observed. Angiography may reveal areas of localized spasm, as well as generalized constriction, findings which mimic atherosclerotic disease. Signs are

generally, but not always, symmetric and generally, but not always, involve the lower extremities. Differential diagnoses must include atherosclerosis, arterial embolism, Raynaud's disease, scleroderma, and idiopathic arterial spasm. Generally diagnosis is made on the basis of a detailed history; in some cases, as we have noted, this must be elicited more than once in patients taking ergot preparations. Raynaud's disease and scleroderma are fairly easily distinguished on the basis of history and physical findings, but differentiation from arterial embolism or atherosclerotic disease can be difficult. The liver is the primary site of detoxification of ergot alkaloids; thus toxic effects seen in patients with liver failure may be due to decreased metabolism of the drug.

Treatment for short-term acute ingestion of ergot alkaloids consists of ipecac-induced vomiting and gastric lavage. Amyl nitrite can be used acutely to induce vasodilation, and barbiturates are used for control of convulsions. Longer-term treatment consists most importantly of withdrawal of the drug. Sym-

The patient admitted to using up to 12 Cafergot suppositories per week.

pathectomy and lumbar sympathetic block have been attempted, but since ergot acts directly on vascular smooth muscle, the rationale for this is flawed; vasoconstriction can occur even following sympathetic nerve blockade. Other treatments have included hyperbaric oxygen, anticoagulation, local anesthesia, and low molecular weight dextran, all with ambiguous or negative results.

The administration of local vasodilators represents the most logical and effective approach. Papaverine does not appear to be effective. Sodium nitroprusside^{6,7} is most often mentioned in the literature as yielding moderate to excellent results. Two separate groups of investigators from Denmark,^{8,9} however, suggest that continuous nitroglycerine infusion is superior, on the basis of (1) equal effectiveness, (2) avoidance of tachyphylaxis, and (3) avoidance of cyanide radical toxicity sometimes seen with nitroprusside. Toe-arm systolic blood pressure gradients and changes in toe temperature have been measured experimentally and clinically and demonstrate the excel-

lent results obtained with nitroglycerine infusion. □

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3300 Northwest 56th Street, Oklahoma City, Oklahoma 73112.

David M. Abercrombie, MD, received his bachelor's degree in chemistry at the University of New Mexico and was graduated from the University of New Mexico School of Medicine in 1982. He is a member of Alpha Omega Alpha. Dr Abercrombie is currently completing a flexible internship at the University of Oklahoma Health Sciences Center.

William H. Oehlert, MD, is a graduate of Washington University School of Medicine. He is certified by the American Board of Internal Medicine and Cardiovascular Disease. He is a Fellow of the American College of Cardiology, a Fellow of the Council of Clinical Cardiology of the American Heart Association, and an associate clinical professor of medicine, University of Oklahoma Health Sciences Center. He is in the private practice of adult cardiology and is director nuclear cardiology at the Cardiovascular Clinic in Oklahoma City.

Neonatal Tetany Secondary to Maternal Parathyroid Adenoma: A Case Report

DON L. WILBER, MD
GARY H. BURGESS, MD
JOHN H. HOLCOMBE, MD

Maternal hyperparathyroidism is an uncommon cause of neonatal tetany but one that should be included in the differential diagnosis of neonatal hypocalcemia. This case illustrates the importance of evaluating the parathyroid function of any mother whose baby develops neonatal hypocalcemic seizures.

Introduction

Neonatal hypocalcemic tetany is known to occur secondary to maternal hyperparathyroidism.¹⁻⁶ In view of this, several authors have suggested that neonatal seizures, when associated with hypocalcemia, must be viewed as a sign of potential maternal hyperparathyroidism.^{2,4,6} Indeed, in cases where the mother is asymptomatic for hypercalcemia, the recognition of neonatal hypocalcemic tetany in her offspring may be the only clue to her condition. In this article, we de-

scribe the evaluation of a male infant who developed hypocalcemic seizures during the neonatal period, and the subsequent diagnosis of parathyroid adenoma in the mother who was otherwise asymptomatic.

Case Report

Infant. An eight-day-old male was admitted to Oklahoma Children's Memorial Hospital for the evaluation and treatment of seizures. His prenatal course, delivery, and postnatal course were normal. However, in the 24 hours prior to admission, he experienced four episodes of generalized tonic clonic convulsions.

The physical findings were unremarkable except for marked jitteriness upon stimulation. Cerebrospinal fluid, serum electrolytes, and glucose were normal. The Q-oTc interval was 0.21 sec (normal, 0.19 sec),⁷ total serum calcium was 7.4 mg/dl (normal, 7.0-12.0 mg/dl), serum phosphorus was 10.4 mg/dl (normal, 4.9-8.9 mg/dl), and the parathyroid hormone (PTH) level was 10 eg/ml (normal, 10-80 eg/ml); the infant was hypocalcemic and hyperphosphatemic with a depressed PTH level. These data and observations led to a

diagnosis of hypocalcemic seizures secondary to neonatal hypoparathyroidism. The infant was treated with intravenous calcium gluconate and, within a week, the serum calcium and Q-oTc interval returned to normal. The infant was weaned to oral calcium gluconate over a three-day period and discharged. After eight weeks, the oral calcium gluconate was discontinued and the child has continued to do well.

Mother. The mother underwent evaluation as soon as her infant was diagnosed. She had previously delivered two other offspring, now three and seven years old, both of whom had experienced generalized seizures in the neonatal period and, in one, seizures were associated with hypocalcemia. The mother was asymptomatic for hypercalcemia; she had no flank pain, renal calculi, bone pain or fractures, and no lethargy or constipation. However, in view of her previous infants' histories as well as in our evaluation of her newborn infant, blood was obtained and analyzed. Serum calcium was 11.4 mg/dl (normal, 7.0-10.0 mg/dl), serum phosphorus was 2.3 mg/dl (normal, 3.5-5.5 mg/dl), and the PTH level was 120 eg/ml (normal, 10-80 eg/ml); the mother was hypercalcemic and hypophosphatemic with an elevated PTH level. We diagnosed hyperparathyroidism, even though she was completely asymptomatic for hypercalcemia. A single adenoma was found in the lower left parathyroid gland, and that gland was excised. Postoperatively, serum calcium returned to normal.

Discussion

Previous case reports have documented an association between neonatal hypocalcemic tetany and maternal hyperparathyroidism.¹⁻⁶ Although one aspect of this association is neonatal morbidity and mortality,⁸ progression of the mother's unrecognized disease is also a significant problem. In this regard, at least two previous reports described the diagnosis of primary hyperparathyroidism in asymptomatic women as a result of their newborns developing hypocalcemic tetany.^{4,6} Other cases have been reported in which women developing symptoms of hypercalcemia had infants who had experienced seizures as newborns.^{5,9}

In the case reported here, the recognition of neonatal hypocalcemic tetany in an infant

led to the simultaneous diagnosis of parathyroid adenoma in a mother who was entirely asymptomatic for hyperparathyroidism. Three and seven years earlier, this woman had delivered other offspring who developed neonatal seizures. Hypocalcemia was diagnosed in one of these infants. Because of this, we believe this woman had had unrecognized hyperparathyroidism for seven years. This case illustrates the importance of (1) evaluating for hypocalcemia any infant who develops seizures during the neonatal period, and (2) evaluating the parathyroid function of any mother whose newborn offspring develops hypocalcemic seizures. □

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Department of Pediatrics, Oklahoma City Clinic, 701 N.E. 10th Street, Oklahoma City, Oklahoma 73104.

Don Lane Wilber, MD, FAAP, earned his medical degree from the University of Oklahoma in 1978 and is now a clinical instructor of pediatrics at the University of Oklahoma Health Sciences Center. He is a member of the Mid-Del Clinical Society and secretary-treasurer of the Central Oklahoma Pediatric Society.

Gary H. Burgess, MD, is assistant clinical instructor at Brown University, Providence, RI, specializing in neonatology. He was graduated from the University of Texas Medical Branch, Galveston, in 1979.

Board certified in pediatric endocrinology, John H. Holcombe, MD, is assistant professor of pediatrics at the University of Oklahoma College of Medicine, where he earned his degree in 1973. Holcombe is a member of the Endocrine Society, Lawson Wilkins Pediatric Endocrine Society, and Southern Society for Pediatric Research.



News From The Oklahoma State Department of Health

Adolescent Health Project

Death rates throughout the United States have been falling since 1960, except among young people between the ages of 15 and 24. Instead, their mortality rate increased by 7.5%.

Oklahoma's statistics are just as disturbing. In 1978, teenage deaths from motor vehicle accidents were 50% greater than the national average. Suicide deaths were 55% greater. Oklahoma teenagers give birth at a rate 41% higher than the national average.

In 1981, the Robert Wood Johnson Foundation, concerned about the pressures facing today's youth, funded several four-year projects to help agencies deal with high-risk adolescents.

One of these projects is the Oklahoma Adolescent Health Project. Sponsored by the Uni-

versity of Oklahoma Health Sciences Center, the Oklahoma State Department of Health's Maternal and Child Health Service and Guidance Service, the Oklahoma State Department of Mental Health, the Oklahoma Area Indian Health Service, and the health department of the Cherokee Nation of Oklahoma, the project is designed to consolidate and improve the administration of health services to the 220,000 adolescents at high risk.

The \$600,000 grant is being used to develop a comprehensive health care program that is easily accessible to Oklahoma youth in need of the services. The professionals who serve the young clients receive additional training about adolescent problems. In addition, the grant will be used to develop a network of referral resources for use by health care providers who serve adolescents.

As part of this project, adolescent health clinics are being established in existing health facilities by the Maternal and Child Health Service and the Guidance Service of the state health department. The clinics will promote preventive health care and will seek to identify previously undetected health problems.

It is believed the project will improve adolescent health care through early problem identification and intervention, and thus decrease the mortality and morbidity rate of this age group. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR DECEMBER 1983

Disease	December 1983	December 1982	November 1983	Total to Date	
				1983	1982
Amebiasis	1	1	—	13	12
Aseptic Meningitis	8	17	16	354	222
Brucellosis	—	—	—	6	8
Encephalitis, Infectious	—	7	1	32	45
Gonorrhea (Use Form ODH-228)	1,135	1,581	1,098	15,230	16,021
Hepatitis A	61	132	67	803	807
Hepatitis B	38	41	29	335	357
Hepatitis Unspecified	21	53	22	258	330
Malaria	—	—	—	8	8
Measles (Rubeola)	—	—	—	1	30
Meningococcal Infections	3	5	3	37	32
Pertussis	14	3	23	339	9
Rabies (Animal)	7	6	2	108	191
Rocky Mountain Spotted Fever	2	—	2	221	88
Rubella	—	—	—	—	3
Salmonellosis	35	47	38	591	482
Shigellosis	13	48	13	236	420
Syphilis (Use Form ODH-228)	8	19	18	211	209
Tetanus	—	—	—	—	1
Tuberculosis	50	36	14	269	337
Tularemia	2	4	1	32	36
Typhoid Fever	—	—	—	3	3

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All members, Delegates, Alternate Delegates, and County Society officials are encouraged and urged to attend. Business to be brought before the House must be submitted by April 9, 1984. All items of business will be debated in open Reference Committee hearings on May 11, 1984.

Any member of the association may submit business for consideration by the House of Delegates. For help in preparing information for submission, please contact the OSMA headquarters office, 601 Northwest Expressway, Oklahoma City, Oklahoma 73118 or call (405) 843-9571.

Larry Long, MD
Speaker of the House

DST for diagnosis of depression has limited value warns ACP

The American College of Physicians (ACP) announced recently that the dexamethasone suppression test (DST) should be considered a diagnostic test of unproven value in the detection, diagnosis, and management of mild to moderate depression in outpatients, pending further investigation and evaluation.

The recommendation is part of the College's Clinical Efficacy Assessment Project (CEAP), in which the ACP evaluates the effectiveness of nonsurgical medical tests, proce-

dures, and therapies and makes recommendations on their appropriate uses. It is published in full in the February issue of the *Annals of Internal Medicine*.

The dexamethasone suppression test consists of the oral administration of a 1 mg dexamethasone tablet, followed the next day by periodic determinations of serum cortisol levels. Ideally the endogenously depressed patient should react by exhibiting abnormally elevated levels of serum cortisol.

The ACP cautions that the DST should be performed only in patients free of several major underlying medical problems. The College also notes that many commonly prescribed medications and psychiatric conditions — such as mania and acute psychosis — may interfere with test results.

Although it has been reported that the normalization of DST values in a patient undergoing tricyclic antidepressant therapy can correspond with the clinical improvement of depression, the ACP found the test to have a low sensitivity for detecting depression. The College also reports that a negative DST result does not necessarily rule out the diagnosis of endogenous depression.

Preliminary test results show that DST performance in outpatients with mild to moderate depression is significantly inferior to that in severely depressed patients. Due to this very low sensitivity, the predictive value of DST in detecting depression in outpatients is limited, the ACP says. □

Economists predicting health care to grow to 12% of GNP by 1990

The health care sector of the economy will continue its rapid growth for the remainder of the decade, according to a summary report of the American Medical Association (AMA) Center for Health Policy Research.

In the near future, an aging population and continuing improvements in medical technology are likely to overshadow increasing copayments and deductibles in health insurance packages, the report says.

Some economists predict that health care will account for approximately 12% of the gross national product (GNP) by 1990. Among other projections, competition between office-based physicians and hospitals is expected to increase, and the cost of physicians' services will rise relative to services provided in hospital outpatient departments. □

Dementia diagnosis missed in 21% of Johns Hopkins patients

Since some cases of senile dementia can be treated, recognition is critical to successful therapy. Yet as many as one-fifth of all demented patients may be overlooked by young physicians in this nation's hospitals, and an equal number of nondemented patients may be erroneously labeled as demented.

These startling data come from an analysis of diagnoses by 57 medical residents of 380 inpatients at the Johns Hopkins Hospital, Baltimore. Investigators Robert P. Roca, MD, and colleagues, writing in the *Archives of Internal Medicine*, report finding that the admitting residents missed a diagnosis of dementia in 21% of patients who were judged demented by Roca's team. The team used the standard criteria established by the American Psychiatric Association.

The residents also labeled as demented 20% of patients who did not fulfill the criteria which included (1) severe impairment of ability to perceive, think, and remember, (2) a history of decline in these faculties sufficient to affect social and occupational functioning, and

(3) absence of delirium or other conditions, such as intoxication, that may disturb alertness or cloud consciousness.

The residents' diagnostic accuracy tended to be influenced by the patients' ages and educational levels. The physicians overlooked dementia in some patients younger than 65. They also appeared more likely to label patients who had not graduated from high school as demented. Roca postulates that formal education may give patients social and intellectual skills that can mask impairment, especially in cases of mild or moderate dementia.

The erroneous diagnosis of dementia can be as damaging as overlooking the condition, Roca warns. Patients with clouded consciousness due to an unrecognized medical condition, for example, might suffer if a misdiagnosis of dementia should lead physicians away from detecting the true underlying condition. Misdiagnosis also could influence physicians to treat dementia patients less aggressively than called for, Roca says. □

Herpes "fingerprint" detected with fast, easy Tzanck smear

A little used test can positively confirm the presence of herpes in two minutes. However, a negative finding using the procedure, called the Tzanck smear, does not necessarily mean that a lesion is herpes free, say University of Michigan Medical Center researchers.

The finding, reported in the *Journal of the American Medical Association (JAMA)*, is significant not only for those herpes victims who suffer discomfort, but also for those, such as leukemia patients and newborns, whose lives may be threatened by the infection. To prevent the infection of newborns, the Tzanck procedure could be used in maternity wards to detect infected birth canals in pregnant women.

Positive Tzanck smears had a 94.1% correlation with positive cultures confirming the presence of herpes simplex in skin lesions, say medical center researchers Alvin R. Solomon, MD, and colleagues. Yet, "despite the rapid and simple procedure involved in doing the Tzanck preparation, it is our impression that it is not commonly used," they say. □



Photo by Mel Root, *Tulsa World*

Leo Lowbeer, MD, 82-year-old chief consultant pathologist at Tulsa's Hillcrest Medical Center, was undaunted by January snowstorms. Resorting to his skis, he negotiated the three miles to work in about 90 minutes. *Tulsa World* staff photographer Mel Root recorded the trek.



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October 31	Telephone Collecting Medical Accounts	Oklahoma City
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Miss that cool down after run and risk more than soreness

Recent research shows that strenuous exercise must be followed by a gradual cooling down period to allay a dangerous buildup of certain blood chemicals.

The post exercise levels of these chemicals, the catecholamines responsible for the fight-or-flight mechanism, are particularly harmful to coronary patients with hearts already sensitive to stress. Surprisingly, the levels can be "strikingly high even for healthy young men," according to Joel E. Dimsdale, MD, of Harvard Medical School, and colleagues reporting in the *Journal of the American Medical Association (JAMA)*.

The researchers studied a group of men, ages 22 to 35 years, working out on exercycles and found that catecholamine levels in the subjects' blood increased dramatically (tenfold in the case of norepinephrine).

The researchers postulate that the catecholamine rise they observed is the body's

attempt to maintain the effects of the high blood pressure experienced during maximal exertion. "With the abrupt cessation of exercise, our subjects' average BP fell drastically from 189/78 to 137/70 mm Hg," the researchers noted. "We . . . found that the drop in systolic pressure from maximal exercise to initial cool down had a significant inverse correlation with the increase in the norepinephrine level for the same interval."

The researchers conclude their study demonstrates that catecholamine response to exercise is effort dependent. Consequently, an acceptable balance of catecholamine levels and BP/pulse levels may be achieved with a cooling-off period.

"The worst possible strategy for exercise cessation would be to have the patient abruptly stop exercising and stand," the researchers say. □

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Extra Y chromosome no excuse for violence, researchers say

Men with an extra male factor in their genetic code are not necessarily destined to be more aggressive than normal-coded males, according to a controlled study of 4,591 men born in Copenhagen, Denmark.

This finding conflicts with prison studies that have shown that males possessing an additional Y chromosome have a greater predisposition to criminal character.

The just-released finding, reported in a recent issue of *Archives of General Psychiatry*, shows that men-at-large who are carrying the extra male chromosome are no more aggressive than normal-coded males.

"Information from social records, a structured psychological interview, and projective tests did not support the notion that men with sex chromosome anomalies are particularly violent or aggressive," says Raul C. Schiari, MD, of New York's Mount Sinai School of Medicine, and colleagues. While the researchers concede that in men a positive corre-

lation exists between testosterone levels and criminal behavior, "there was no evidence that testosterone is a mediating factor in the criminal behavior of XYY men."

"The only cluster from the interview that statistically distinguished XYY men from controls was physical aggression, and the difference was primarily due to one item, 'aggression toward wife,' on which the XYY men scored considerably higher," the researchers say. Other behavior assessment categories included whether the male ever used violence against others, was considered a bully, or became surly or sarcastic when annoyed.

The researchers found that testosterone levels "were almost identical for the XYY men with and without criminal conviction."

"There was a significantly positive relation among all subjects as well as XY controls alone between plasma testosterone level and evidence of criminal convictions," they say. □

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Deaths

CHARLES S. BEATY, MD
1905 - 1983

Oklahoma native Charles S. Beaty, MD, died December 28, 1983, in Muskogee, where he had been in private practice for many years. A retired anesthesiologist, Beaty was graduated from the University of Oklahoma College of Medicine in 1935. During World War II he served overseas in the army for three years, earning the rank of captain.

JACK H. FOERTSCH, MD
1917 - 1984

Jack H. Foertsch, MD, of Chickasha died January 19, 1984. Dr Foertsch was a 1942 graduate of the University of Pittsburgh School of Medicine, Pittsburgh, Pa, and had a private practice in internal medicine. He had been in practice in Oklahoma since 1951.

In Memoriam

1983

<i>Selwyn A. Willis, MD</i>	<i>March 3</i>
<i>Virgil Ray Forester, MD</i>	<i>March 8</i>
<i>George Ross, MD</i>	<i>March 11</i>
<i>Holice B. Powell, MD</i>	<i>March 18</i>
<i>John A. Brasfield, MD</i>	<i>April 15</i>
<i>George M. Adams, MD</i>	<i>May 3</i>
<i>John R. Reid, Jr, MD</i>	<i>June 14</i>
<i>Gilbert E. Haslam, Jr, MD</i>	<i>June 15</i>
<i>Thomas A. Trow, MD</i>	<i>June 23</i>
<i>Richard D. Mullett, MD</i>	<i>June 28</i>
<i>Aaron C. Little, MD</i>	<i>July 1</i>
<i>Michael C. Manning, MD</i>	<i>July 3</i>
<i>Hillard E. Denyer, MD</i>	<i>August 8</i>
<i>Edward A. Allgood, MD</i>	<i>August 18</i>
<i>Hugh E. Wilson III, MD</i>	<i>August 27</i>
<i>Harold J. Black, MD</i>	<i>September 1</i>
<i>Marque O. Nelson, MD</i>	<i>December 24</i>
<i>Park H. Medearis, MD</i>	<i>December 26</i>
<i>Charles S. Beaty, MD</i>	<i>December 28</i>

1984

Jack H. Foertsch, MD *January 19*

CALL FOR RESOLUTIONS

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates annual meeting must be received in the executive office no later than thirty (30) days prior to the meeting. This year's meeting will be held May 9-12, 1984, at Shangri-La, Afton, Oklahoma.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 NW Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices.

SUBMIT YOUR
RESOLUTIONS
ON OR BEFORE

April 9, 1984.

Recent travels can offer clue to patient's mysterious illness

"Where have you been?" should perhaps be the leading question physicians ask of ailing patients who have been traveling. Reports in the *Journal of the American Medical Association (JAMA)* show that proper diagnoses of potentially life-threatening infections may be delayed for months because some physicians don't inquire as to their patients' previous whereabouts.

Once the question is answered, diagnoses of mysterious infections could be made in no time, writes Myron G. Schultz, DVM, MD, in an editorial that accompanies the *JAMA* reports on infectious disease. However, "many physicians are not comfortable with this responsibility because they are trained, quite naturally, to deal with the common disease in their own country, not diseases that are often called 'exotic,'" says the Centers for Disease Control (CDC) researcher.

Patients often regard their recent travel as irrelevant and therefore will not mention it unless specifically asked. "Physicians should not succumb to this error," says Schultz. "Most of the infectious diseases that travelers acquire are relatively easy to diagnose — provided one has thought of them."

Prophylactic measures against "exotic" disease can range from simple towel drying of skin drenched with parasite-contaminated water to vaccination against the more lethal foreign afflictions, such as yellow fever. In fact, travelers six months of age or older who will be traveling to high risk areas in Africa and South America should be immunized against yellow fever, according to the

weekly CDC report in *JAMA*. Infants under six months old and pregnant women should avoid foreign travel instead of using the vaccine, the researcher cautions. □

Book Review

Science at the Bedside: Clinical Research in American Medicine, 1905-1945. By A. McGehee Harvey. Baltimore: Johns Hopkins University Press, 1981. Pp 554, \$17.50.

This book documents the history of clinical investigation in the United States in the developmental years between 1905 and 1945, and examines activities and influences at major academic medical centers in this country.

A. McGehee Harvey of the Johns Hopkins University School of Medicine describes the events, the individuals, and the institutions that prepared the foundation for the United States' leadership position in medical science. The volume consists of four major parts and four appendices; there is also a collection of notes and references.

Part I, "Setting the Stage for Clinical Science," discusses formative influences in the nineteenth century. These were largely European but had a profound effect on physicians in America who went to Europe not only for postgraduate training but to work in the laboratories of famous physicians there who were also engaged in research. The author dis-



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Reviews *(continued)*

cusses programs for training premedical students in the basic sciences and the importance of basic sciences in the training of clinical investigators in this country.

Part II concerns the establishment of basic science laboratories in American medical schools. Particular attention is given to the influence exerted by Johns Hopkins, the Rockefeller Institute, and certain medical societies in the development and progress of clinical science and investigation.

Part III deals with the concept of full-time professorships in clinical departments and the enormous influence that the persons in these posts had on their trainees, who subsequently established their own programs at other centers. The careers of many of the influential clinical investigators are depicted.

Part IV deals with the 15 medical centers in this country that Harvey believes have had the greatest impact on medical research and training. These institutions nurtured an environment favoring excellence in clinical sci-

ence. (The only schools in our region included in the select group are Vanderbilt and Washington University.) The author demonstrates how the dispersal of men and ideas to and from these schools influenced medical education and practice. The careers of many of the leading teacher-investigators at these schools are outlined.

Harvey sheds a great deal of light on the manner in which the major medical centers emerged from the didactic traditions of the nineteenth century to become the integrated academic centers that we know today. He provides an absorbing account of the history of medical institutions and of leaders who have been so influential in the development of modern medical practice.

Many of the persons and institutions in this book have been described elsewhere, but this work pulls them together in a single interesting narrative.

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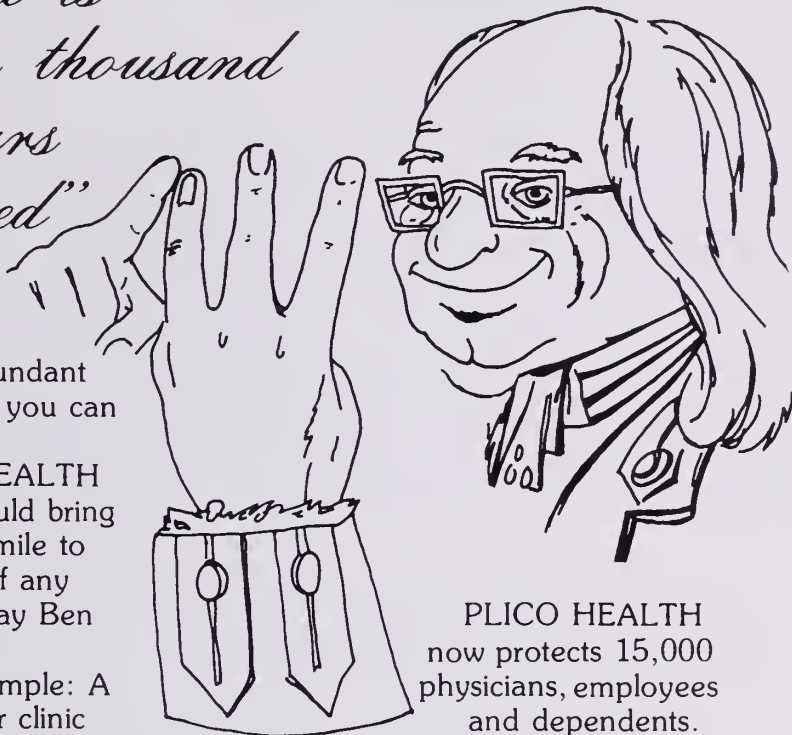
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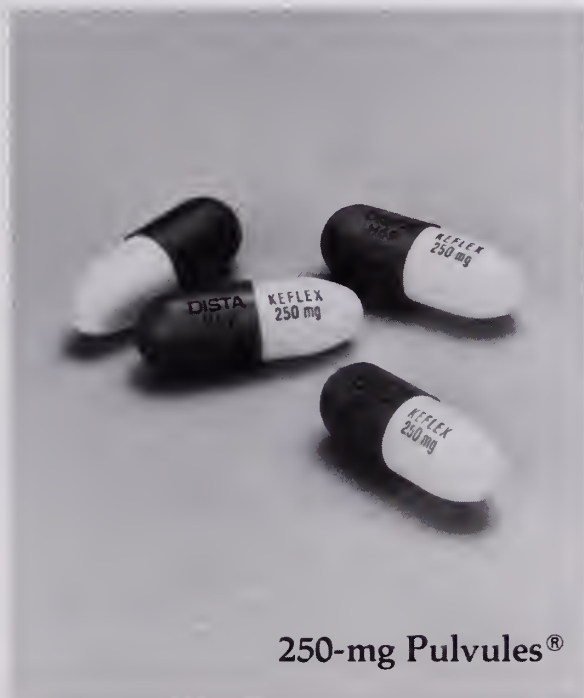
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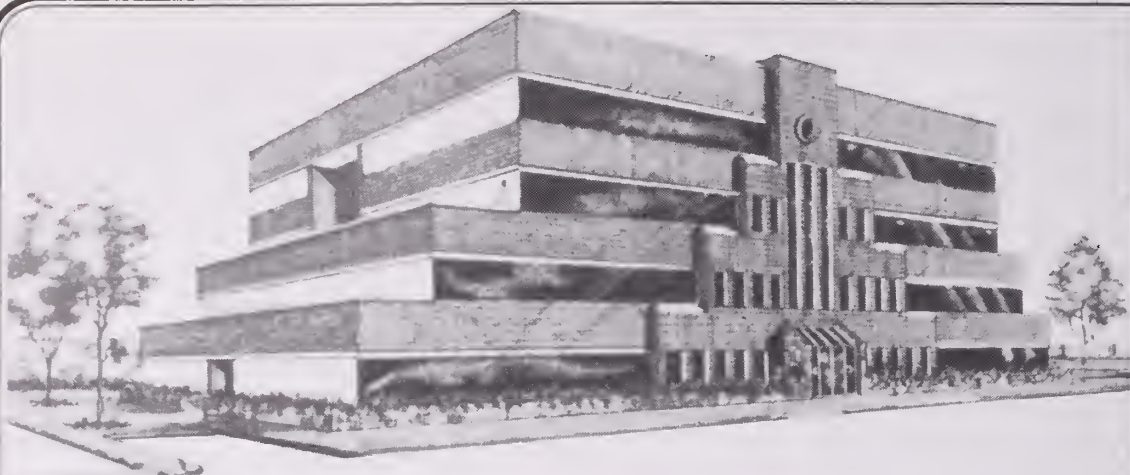
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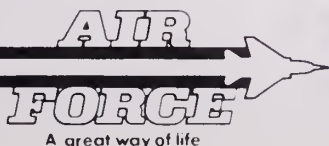
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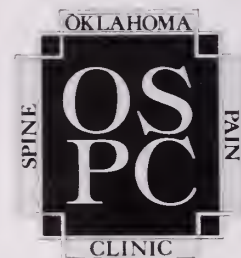
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Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

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BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

Shangri-La Just Around the Bend

The climax to our "Full Steam Ahead" journey will be May 9-12 as we pull into the Shangri-La depot for our 1984 Annual Meeting.

We have many delightful events and informative sessions planned for auxilian and spouse.

Two excellent speakers will be on our program. One is David Schmidt who will talk to us about time management, and the other is Ed Kelsay whose presentation will be "Don't Be A Victim." Our "Dinner in the Diner" luncheon on Friday will feature Horace English, an outstanding vocalist. We have also planned a shopping trip, excursion to Har-Ber Village, and a Holiday Bazaar benefiting AMA-ERF. Watch for the official program for details.

The highlight of the meeting will be the presence of our AMA Auxiliary president, Glenda Bates. Glenda (Mrs John G.) of Cuthbert, Georgia, took office as president of the American Medical Association Auxiliary at the organization's convention in June 1983. She was elected president-elect at the 1982 AMA Auxiliary Convention. She has served on the national level as Bylaws Committee Chairman, First Vice-President, Southern Regional Vice-President, a member of the Board of Directors, Long-Range Planning Committee chairman, and chairman of the Task Force to Study a Structure for a Young Physician's Spouse Section. She also was Southern Regional Project Bank area counselor.

An active county auxiliary member, Mrs Bates has served the Georgia state auxiliary since 1967, holding the offices of president, first vice-president, recording secretary, parliamentarian, Nominating Committee alternate member, and Executive Board



Glenda Bates

member, and chairing the Rural Health, Bylaws and Revision, Long-Range Planning, and Membership Committees. She is currently serving as a member of the Executive Board.

She has served the Southern Medical Association Auxiliary as chairman of research and romance of medicine, councilor from Georgia, and Nominating Committee member.

Born in Mize, Mississippi, Mrs Bates graduated from Belhaven College, Jackson, Mississippi, with a BA in Spanish/business administration. She received the Trustee's Award for outstanding scholarship (highest four-year average). Employed as a personnel assistant and secretary before working at her husband's office for two years, she has also been employed as interim minister of music and youth for her church, and as head of her own group of weight-control organization. She currently is the business manager for the two-physician medical group headed by her husband.

Involved in community activities, Mrs Bates is county liaison and fund chairman for the Mental Health Association of Georgia and is a past Heart Fund Campaign chairman of the county heart association. She has been a volunteer music director, voice coach, and Literary Meet Director for her children's schools since 1970; cultural arts program chairman for the PTA since 1972; auction chairman in 1977; and director of the High School Scholarship Pageant in 1979. Mrs Bates received an Outstanding Service Award for the Easter Seal Society, has served as coordinator for community programs for the Cuthbert Jaycees, and has been listed in *Who's Who in American Women*.

This is the third consecutive year we have been privileged to have the AMA Auxiliary president as our guest. We are deeply honored! Please mark these dates on your "timetable" and join us May 9-12 for this exciting last stop.

-Camille Harrison, president

■ A novel obstetric procedure called "chunging" is described in a recent issue of *JAMA*. George Thorngate, MD, of Monterey, Calif, says the procedure has been used in rural China in cases of prolonged labor. Chunging involves picking up the mother and jouncing her repeatedly, "literally shaking the baby out." Thorngate learned of the practice when a family refused to allow a cesarean section. He says the experience proves that "even a well-trained physician can be ignorant of the full range of techniques at his disposal."

■ Home care is as effective as treatment in a coronary care unit (CCU) for selected heart attack patients, write Sam C. Eggertsen, MD, and Alfred O. Berg, MD, of Seattle's University of Washington School of Medicine. In the *Journal of the American Medical Association (JAMA)* they state that available studies do not show substantial improvement in mortality rates associated with intensive care in a CCU, compared with at-home or regular hospital room care for patients who have had complicated heart attacks.

■ Baptist Medical Center of Oklahoma Inc, Oklahoma City, will host the Annual Wann Langston Memorial Oncology Lecture for health professionals Thursday, April 12, 1984. The lecturer will be Felix Rutledge, MD, head of the department of gynecology at the MD Anderson Cancer Center, University of Texas System. His topic will be "Management of Early Cancer of the Vulva." A one-day symposium built around the lecture will feature nine prominent cancer researchers from Colorado, Texas, Florida, and Oklahoma. Registration applications are available through Medical Education, Baptist Medical Center, (405) 949-3154.

■ Harry B. Tate, MD, a neurological surgeon, has been appointed president to the Medical and Dental Staff of Presbyterian Hospital in Oklahoma City. He fills the position vacated by Dr Ted Clemens, who stepped down last fall, and will complete the remaining two years of Clemens's term before new elections are held. Tate, a Texas native raised in Fairfax, Okla, completed his medical training at the University of Oklahoma College of Medicine in 1963. He is now clinical assistant professor, Department of Surgery, Division of Neurological Surgery, Oklahoma College of Medicine.

■ New findings contradict a 1976 study linking an increased risk of breast cancer to treatment with thyroid supplement medications. Daniel A. Hoffman, PhD, and colleagues at the National Cancer Institute and the Mayo Clinic found no increase in breast cancer associated with the supplements among 1,665 hypothyroid women who were treated at the Mayo Clinic between 1946 and 1964. They saw an excess of breast cancer only among the women who also had a history of breast biopsy.

■ Medical kits aboard commercial airliners should contain a stethoscope, a sphygmomanometer, airways, splints, tongue blades, and a flashlight, the AMA has recommended in a letter to the Federal Aviation Administration (FAA). The letter noted that the first aid kits now carried on commercial flights generally contain little more than aspirin and bandages. The FAA was urged to study the number, frequency, and types of in-flight medical emergencies. Such data would be useful in determining the need for extended medical kits and the most appropriate contents for such kits.

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sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



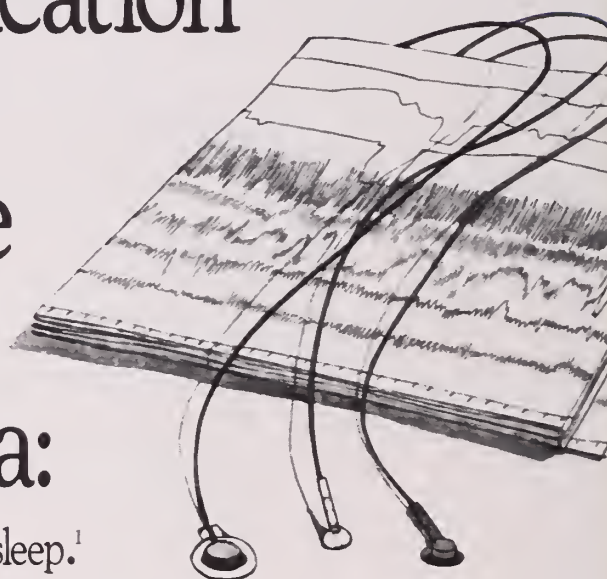
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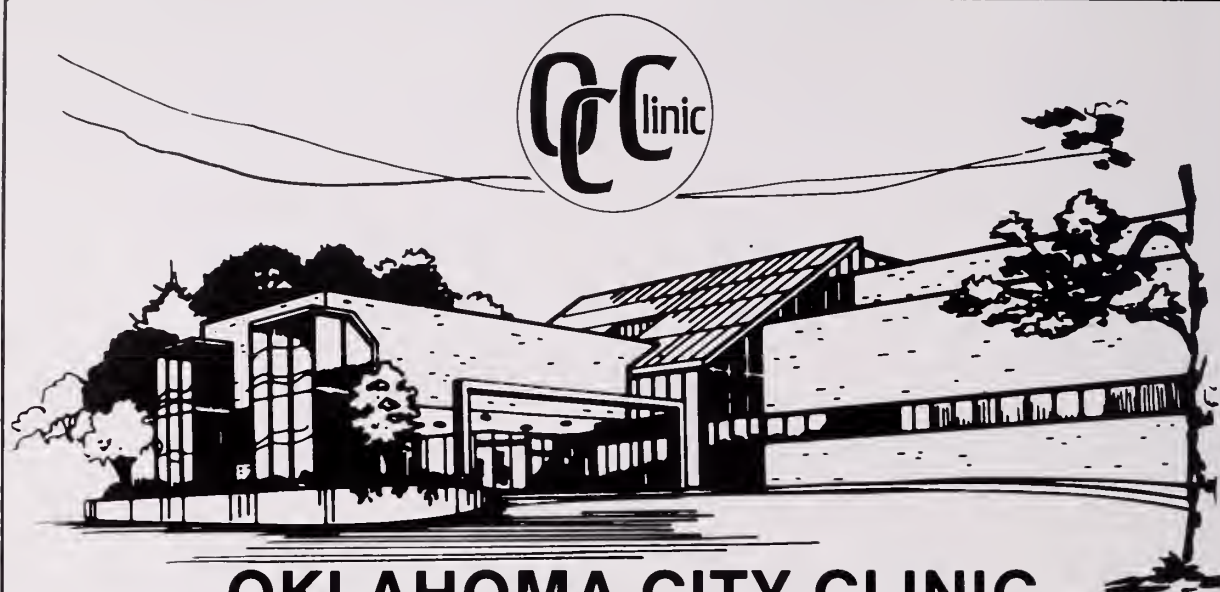
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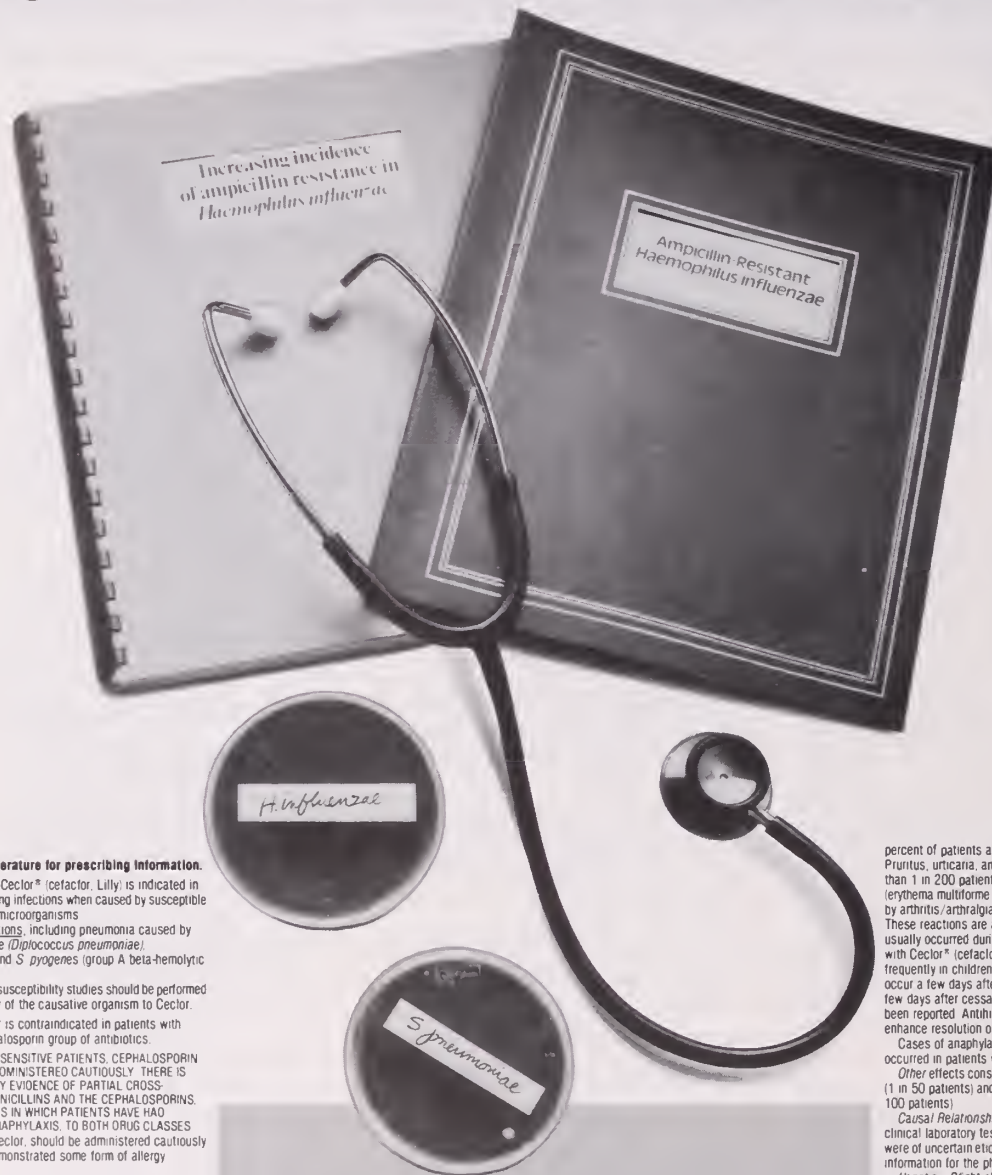
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An added complication... in the treatment of bacterial bronchitis*



Brief Summary.

Consult the package literature for prescribing information.

Indications and Usage: Cefclor® (cefclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs.

Precautions: If an allergic reaction to cefclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g. pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Use in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Use in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefclor therapy are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Cefclor.

Hypersensitivity reactions have been reported in about 1.5

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.⁷

Cefclor®

cefclor

Pulvules®, 250 and 500 mg

percent of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefclor® (cefclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy. Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). (1002818)

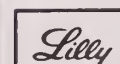
*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Oklahoma State Medical Association

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Dear Friend and Patient

Recently you have been hearing and reading about a variety of "new" and "less expensive" health insurance policies which will "cover the costs of medical and hospital care when you need them," or "when they are necessary to help you recover from an illness," or "when you need an operation," or any of a number of such reassuring statements.

My purpose in writing you is to urge that, before you consider buying such a policy, you read every word of the agreement and understand thoroughly what is being promised in return for your premium dollars. Every time you encounter the word "necessary" or "need" or "essential" or "recommended," ask one vital question: In whose opinion? The answer may surprise you.

As a matter of course you would assume that, as your physician, I would be the one to decide whether you needed to be in the hospital and whether you needed an operation or a specific kind of treatment. With many of the health insurance policies now being offered, this is not the case. Before your insurance underwriter assumes any financial liability for your care, a group of "reviewers" selected and paid by the insurance company must agree, in effect, that my assessment of your needs was "correct" or "appropriate" or essentially in agreement with theirs. Furthermore, the insurance company may require their reviewers' approval prior to your acting on my advice, and

can even demand that I pay the costs of your care if they disagree with my decisions.

Incredibly, the crowning travesty in this mockery of concern for your health and welfare is the fact that, in contracting for such a policy, you agree to "hold blameless" the reviewers and their employers, the insurance companies, in case you suffer some misfortune while following or awaiting their advice.

I hope you understand that I cannot practice medicine in such a system.

You have selected me as your physician and I am proud of that fact. I will not abdicate or modify my responsibilities as your physician, nor will I vacate my opinions in response to the pronouncements of an anonymous collection of uninvited consultants employed by an insurance company for the purpose of controlling its costs and its profits. Neither will I participate in any program which disenfranchises you of your right to hold accountable those whose professional decisions determine the course or length of your life.

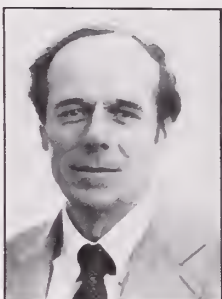
So, as much as it would sadden me to have you leave my care, I must, in the most cordial way possible, advise you that if you purchase a health insurance policy which compromises my ability to effect such care, I must discharge you as my patient.

I will never discharge you as a friend, however, and if I can serve you as a friend at any time in the future, please let me know.

—MRJ

Looking back — or forward?

There are simply too many profound feelings and questionably profound thoughts to be expressed in a final page of this sort. I suspect this explains the final efforts which simply say "thanks" and others which tend to run on into soporific detail. Trying to sort through this, I come up with prevailing themes of gratitude, humility in the face of the large events which confront the medical profession, and forceful reminder of the forever unfinished nature of our association's work.



Neither words of gratitude nor monetary rewards can truly express the thanks which we owe to David Bickham, his excellent staff, our able council and committee chairmen, our auxiliary, and the numerous physicians who do the daily work of our association. The skills, dedication, clear thinking, and noble purpose displayed so many times during the past year are indeed inspiring. Your efforts are appreciated.

Many of the most significant issues confronting medicine seem to have a focal point in Oklahoma. During the past year, we have

dealt with the need for a governor's veto of misguided state legislation and held a special session of our House of Delegates to confront the philosophic and professional quandaries involved in the changing nature of peer review. The entire Medicare crisis interacts most acutely with us here in Oklahoma, both because of individuals in our congressional delegation and because of our own Medicare demonstration project. Our large single capital outlay for purchase of our computer system, our freeze on fees, our efforts for positive influence on state legislation, our efforts on behalf of our impaired colleagues, and the restoration of adequate financial reserves to our association are all issues of great complexity. One can only approach such judgment with a sense of humility and, perhaps, another cup of coffee.

Finally, there is the pervasive quality of unfinishedness about much of this, characteristic of life itself. Our association is obviously a strong and vital one, and the reins of leadership now pass into the very able and steady hands of Jim Eskridge. I have every confidence in our association and his leadership.

Thank you.

George H. Kamp, M.D.

Preeclampsia-Eclampsia: The Number One Cause of Maternal Death in Oklahoma

RICHARD T. JENNINGS, MD
WARREN M. CROSBY, MD
SARA R. DePERSIO, MD, MPH

Eclampsia has replaced hemorrhage as the leading cause of maternal death in Oklahoma. Several representative cases are reviewed and suggestions proposed for earlier identification and appropriate management.

Periodic examination of the causes of maternal death in this state has been helpful in our efforts toward reducing the number of such deaths. During the years 1950 to 1979, hemorrhage was the leading cause of maternal death in Oklahoma.¹ Obstetric hemorrhage as a cause of maternal mortality has been addressed specifically on two occasions.^{2,3} A review of maternal death statistics by the State Maternal Mortality Committee for the years 1975 through 1979 shows that toxemia has become the leading cause of maternal death in Oklahoma (Table 1).

Table 2 shows the direct maternal mortality ratios (MMR) for 5-year periods from 1950 to 1980. In the year 1950, the direct MMR was 77.3; in the year 1979, it was 8.1. The committee has recently observed that as the maternal mortality rate has decreased, the percentage of deaths that are preventable has also decreased. More deaths are now due to patients who refuse care and die of easily preventable problems or of suddenly developing medical problems where prompt, appropriate, and even heroic efforts could not prevent death. The exception is deaths due to preeclampsia-eclampsia.

The Maternal Mortality Committee of the Oklahoma State Medical Association reviews all deaths that occur during or within 90 days of a term pregnancy. Records are obtained from the attending physicians and are assigned to one member of the committee for review. They are altered to provide patient anonymity. Each case is then presented to the entire committee, where the direct or indirect role of the pregnancy in the death is ascertained. Upon review

Preeclampsia (continued)

of the deaths by the Maternal Mortality Committee, a number of cases can be identified as being deaths due to preeclampsia-eclampsia even though they are not coded as such on the death certificate. Cause of death, factors of preventability, and responsibility are then assessed by vote of the committee. Review of the 16 deaths due to preeclampsia-eclampsia from 1971 to 1980 indicates 11 were preventable. It is also our opinion that while only deaths are reviewed by the committee, non-fatal maternal and neonatal morbidity also occur and are equally preventable. We have observed recurrent patterns of care for patients with preeclampsia-eclampsia that we feel are both inadequate and misguided. The following cases are representative of these problems and will serve as the basis for discussion.

Case Histories

Case Number One. A 24-year-old white nullipara in the 31st week of pregnancy developed blood pressure of 140/100mmHg. She had gained 28 pounds since the 22nd week of pregnancy but had no albuminuria. She was given hydrochlorothiazide and put on a low-salt diet. She was admitted to the hospital at 34 weeks after having headaches for two weeks and scotomata for one week. On admission her blood pressure was 200/130mmHg. She was treated with hydralazine administered by intravenous drip. On the following day a primary cesarean section was performed. Postoperatively she was markedly hypertensive with blood pressures in the 220-240/120-130mmHg range. She remained extremely ill and hypertensive. Two days later she possibly suffered a pulmonary embolus and was treated with heparin. The following day she began hemorrhaging profusely and a total hysterectomy was undertaken. During surgery, the patient had a cardiac arrest and could not be resuscitated.

The committee felt this death was preventable, and the likelihood is that the patient would be alive today had she been hospitalized when she developed central nervous system symptoms, which likely indicated the development of severe preeclampsia. Stabilization and earlier delivery might have resulted in a living mother and baby.

Case Number Two. A 32-year-old black female, gravida 2, para 1, at 38 weeks gestation had been followed throughout pregnancy and had no hypertension, proteinuria, or edema. On the day of death, the patient called her physician complaining of nausea, vomiting, and epigastric pain. Vital signs obtained in the emergency room were reported

normal. She was treated with antacids, analgesics, and an antiemetic. One hour after admission to the emergency room, she became restless, somnolent, developed convulsions, and became comatose. Blood pressure was noted to be 160/110mmHg. It was then noted that her serum and urine were bloody. Heparin therapy was initiated and an immediate cesarean section, which delivered a dead baby, was performed. The patient never regained consciousness, experienced a progressive downhill course, and died.

The committee felt these deaths were preventable in that the performance of a cesarean section in an unstabilized patient is always risky, and to perform this operation following the death of the baby was unwarranted.

Case Number Three. A 24-year-old white female, gravida 3, para 2, refused prenatal care in spite of preeclampsia having been recognized during her other two pregnancies. She presented at the hospital complaining of right upper quadrant abdominal pain and swelling. The uterine fundus was at 31 cms, blood pressure was 140/90mmHg, and urine tested 2+ for protein. One hour later the patient had a grand mal seizure, postictal right hemiparesis and blood pressure elevation to 180/120mmHg. She was immediately given hydralazine and MgSO₄. She

Table 1. Number of Maternal Deaths in Oklahoma by Five Leading Causes 1975-79 (34 direct maternal deaths)

Leading Causes of Death	Number of Deaths	% Direct Maternal Deaths
Preeclampsia-eclampsia	8	23.5
Puerperal infection	7	20.6
Hemorrhage	6	17.6
Ectopic	5	14.7
Abortion	1	12.9

Table 2. Total Direct Maternal Deaths and Direct Maternal Mortality Ratio Per 100,000 Live Births (Oklahoma, 1950-79)

Years	Direct Maternal Deaths	Direct MMR
1950-54	177	69.7
1955-59	99	39.1
1960-64	82	32.9
1965-69	50	24.2
1970-74	54	25.0
1975-79	34	15.0

then developed cardiorespiratory arrest, and a cesarean section was done. The infant was dead and the patient did not respond to resuscitation efforts.

The committee felt that performing a cesarean section on an unstabilized patient could not have contributed to the medical management of cardiorespiratory arrest, and may have contributed to the suddenness of death.

Case Number Four. A 30-year-old Indian female, gravida 3, para 1, had prenatal care throughout her pregnancy. A previous pregnancy had been uncomplicated. At 37 weeks examination during an office visit revealed blood pressure of 118/68mmHg and 3+ proteinuria. The following week the blood pressure was 110/68mmHg. Three plus proteinuria persisted but was not investigated. At 39 weeks the blood pressure was 148/80mmHg and there was 3+ proteinuria and 2+ nondependent edema. The patient was admitted for induction of labor. During the labor, blood pressure increased to 170/100mmHg. The patient was treated with phenobarbital, meperidine, and promethazine. A normal delivery ensued. Postpartum the blood pressure was in the 140/90mmHg range. Twenty hours later the patient began experiencing headache and epigastric pain, and was found to have a blood pressure of 200/120mmHg. Meperidine and promethazine were administered. Within 15 minutes the patient experienced numbness on the left side of the face. She quickly became comatose. One gram of MgSO₄ was given intramuscularly, but the patient suffered cardiac arrest and could not be resuscitated.

The committee did not quarrel with induction of labor, but thought management of the rapidly progressive postpartum preeclampsia had not been aggressive enough. Death was presumed to have resulted from intracranial hemorrhage.

Case Number Five. A 28-year-old black female, gravida 3, para 2, had previous pregnancies which were uncomplicated except for cesarean sections. At 36 weeks in the third pregnancy she was admitted to the hospital for preeclampsia with blood pressure of 170/105 mmHg. The previous week, because of hypertension, she had been advised to take Dyazide. The following day her blood pressure was 170/120mmHg. She complained bitterly of headache and blurred vision. She was thought to be growing more toxic and was given promazine and 2 g of MgSO₄ intramuscularly. It was thought that immediate cesarean section was warranted, and she was taken to the operating suite. During induction of anesthesia, her blood pressure reached 220/130mmHg and her right pupil began to dilate. Blood pressure could not be maintained during the procedure. The patient died without regaining consciousness.

The committee felt that anesthesia for the planned cesarean delivery in an unstabilized

patient was the precipitating factor in this patient's death, which was thought probably due to intracranial hemorrhage.

Case Number Six. A 29-year-old black female, nullipara, had experienced no problems early in pregnancy. At 29 weeks she was noted to have a blood pressure of 170/120mmHg, headache, edema, and gain of 12 pounds weight since the previous office visit. She was given oral furosemide and sent home. She was again seen in three weeks with blood pressure of 160/115mmHg, 3+ proteinuria, and increasing edema. She was hospitalized at that time. During the hospitalization, she was given hydrochlorothiazide and put on a 2 g sodium diet. A 24-hour urine specimen on the first hospital day revealed 6 g of protein. On the second day oral hydralazine therapy was added. The patient's blood pressure on the second day reached 190/140mmHg. She continued to experience headache and was discharged on the fourth day with blood pressure of 170/120mmHg. The following week at 33 weeks the patient was readmitted to the hospital. She had a blood pressure of 200/100mmHg, edema, 4+ proteinuria, 4+ reflexes with clonus, and epigastric pain. She was placed at bed rest and given oral furosemide. The following week her blood pressure readings averaged 180/110 mmHg. By the 34th week of pregnancy, the patient was experiencing epigastric pain so severe that meperidine had to be administered. Amniocentesis that day revealed an L/S ratio of 2:1. The following day the patient experienced the onset of severe abdominal pain and vaginal bleeding. The uterus was extremely tender, and no fetal heart tones could be heard. An emergency cesarean section was done for probable abruptio placentae with a dead infant at 34 weeks gestation. During the cesarean section, the skin incision, intravenous puncture site, and uterine incision began hemorrhaging profusely. The uterus became atonic and did not respond to usual medications. Blood was administered, but the patient became hypotensive. Emergency hysterectomy was attempted, but the patient expired during the procedure.

Outpatient treatment of severe preeclampsia is totally unacceptable in today's practice of obstetrics. It is surprising to find this disease allowed to progress essentially untreated for three weeks. Earlier admission, stabilization, and delivery might have prevented the fetal death and ultimate maternal death from the complications of placental separation.

Discussion

The preeclampsia-eclampsia syndrome is a disease of unknown etiology that affects only pregnant women and has considerable variance in its appearance around the world. However, in Oklahoma the disease follows the general pattern as outlined in the usual

American textbooks. We believe that the recent introduction of the term "pregnancy-induced hypertension" (in which hypertension is separated from proteinuria and thus includes a large number of pregnant patients with minimal disease in whom the risk of perinatal mortality is small) may have had a deleterious effect on the previously well understood diagnostic criteria for the disease of preeclampsia. This confusion regarding the diagnosis of the disease may have led to difficulty in identifying patients who qualify for aggressive treatment. The purpose of this article is to demonstrate that preeclampsia-eclampsia exists in Oklahoma and represents a significant threat to the life and health of mothers and their fetuses, and that careful attention must be paid to both the diagnosis and the proper treatment of this disease to avoid the disasters typified by the case presentations.

Diagnosis and Management of Preeclampsia. Preeclampsia exists when there is hypertension and proteinuria that meet the criteria outlined below. Edema in the upper half of the body is commonly present but is not necessary for the diagnosis. Hypertension is defined as a blood pressure of 140/90mmHg or an increase of 30mmHg systolic or 15mmHg diastolic over the previously established baseline levels during pregnancy. These pressures should be sustained over a period of six hours to meet strict international criteria for the diagnosis. However, the practitioner doesn't know whether or not the blood pressure and proteinuria will be present six hours later. Furthermore, the rapidity with which the disease can worsen is such that six hours may very well be too late to institute appropriate therapy to prevent convulsions, premature separation of the placenta, or fetal death. We think that the patient who meets the minimal criteria for having the disease should promptly be hospitalized. Hospitalization for a patient with hypertension and proteinuria should not be delayed until the next day but should be accomplished as soon as possible after the diagnosis is made.

Immediate bed rest under observation in the hospital will separate those few patients with rapidly progressive disease from those whose disease is not progressive. After overnight observation in the hospital, the majority

of patients may be allowed to return home because their blood pressure will have declined and proteinuria disappeared. While those patients are still at risk for the development of more severe preeclampsia, it is unlikely the disease will become rapidly progressive if they remain at bed rest at home. However, we think that patients who are allowed to go home should have daily visits by either the doctor or a nurse who will record and report the blood pressure every day. The patient should be encouraged to stay at bed rest and use dip sticks to record the presence or absence of protein in her urine every time she voids. These patients should be seen a minimum of once a week in the office, and at the earliest appropriate time labor should be induced. If the fetus is mature at the first hospitalization, labor should probably be induced then.

A smaller group of patients will not respond to bed rest in the hospital and will maintain their elevated blood pressure and proteinuria after bed rest in the hospital overnight. These patients have a propensity for developing more severe disease and are likely to

**We have observed
recurrent patterns
of care . . .
both inadequate and
misguided.**

have either premature labor or intrauterine growth retardation or both. These patients should be kept in the hospital until the fetus is mature or until the disease worsens, in which case the infant should be delivered. Until delivery is accomplished, repeated assessment of the fetal status by appropriate testing is warranted.

The smallest but most significant group are those in whom the disease worsens during bed rest in the hospital. Approximately 5% to 10% of patients who meet the criteria for preeclampsia in the office will have a significant worsening of their disease while under observation in the hospital. These patients have a very high risk of premature labor, eclampsia, in utero growth retardation, premature separation of the placenta, and coagulation defects. Whenever possible, infants of patients who worsen under bed rest and develop the

criteria for severe preeclampsia should be promptly delivered in a tertiary care center where there is a neonatal intensive care unit to care for a small, sick, newborn infant.

Occasionally patients develop eclampsia at home and are brought to the office or to the hospital. Such patients of course should be promptly hospitalized and their convulsions controlled with administration of magnesium sulfate. As evidenced by the cases referred to earlier, operative interference during or shortly after the convulsive process is extremely hazardous. Magnesium sulfate infusion will control the vast majority of convulsions and allow the patients to recover from the postictal state. Only after the blood pressure has stabilized and the patient's orientation as to time, space, and her surroundings has been reestablished should attempts be made to bring about delivery.

Some eclamptic patients are in labor when the first convulsion occurs. Stabilization with magnesium sulfate and blood pressure control should continue during the labor, and major anesthetics should be avoided. A cesarean section should not be done merely because the patient has had a convulsion. The management of a patient in labor with eclampsia who develops fetal distress is a particularly difficult one in that proceeding to cesarean section to treat the severe fetal distress may very well kill the mother, while not doing a cesarean section may very well allow the fetus to die. Such a dilemma would best be handled by consulting the nearest specialist in perinatal medicine and by a thorough discussion of the various options with members of the patient's family.

Drug Treatment of Preeclampsia. Up to this point we have not discussed the details of drug treatment. This is because the management program outlined above is the primary basis for therapy, not drugs. The most effective drug for preventing and controlling convulsions is magnesium sulfate. The initial dose that should be administered is a 4 g loading dose given intravenously over a period of five to ten minutes, followed by either the intravenous or intramuscular regimen outlined below:

Intravenous regimen: An IV is started with 5% glucose in water which is run at a slow rate. Piggybacked into this infusion system is a solution of magnesium sulfate that will deliver 1 g to 2 g an hour

of magnesium sulfate without adding a large volume of solution. An infusion pump can be helpful in controlling the flow rate. The usual mixture is 10 to 20 g of magnesium sulfate per liter of 5% glucose. If lower fluid volume is desired, 40 g of magnesium sulfate can be added to one liter of fluid. At this concentration an infusion pump would be necessary.

Intramuscular regimen: The initial intravenous loading dose of 4 g is administered as above. At the same time 10 g of a 50% solution of magnesium sulfate is administered, half in each buttock deep intramuscularly in the upper outer quadrant. One or 2 ml of 1% lidocaine is often helpful in reducing the pain of this large volume of injection. This initial 10 g dose is then followed by a 5 g dose every four hours in alternating sites.

Once magnesium sulfate is required, the disease has advanced to the point that the baby should be delivered regardless of the stage of pregnancy. Magnesium sulfate is a myometrial inhibitor, and it is not uncommon for labor to be inadequate while magnesium sulfate is being administered. The magnesium sulfate is more important than the quality of labor, and if the uterine response to oxytocin cannot bring about successful labor, cesarean section may be necessary. Occasionally patients will have postpartum hemorrhage while receiving magnesium sulfate, in spite of the administration of oxytocin. This occurs usually in patients who have had large doses of magnesium sulfate over a long period of time and particularly in patients who have had hypotonic uterine inertia and a prolonged labor. The combination of magnesium sulfate, hypotonic uterine inertia, and maternal exhaustion may lead to excessive postpartum hemorrhage. Blood should be immediately available for these patients, and if a cesarean section is done, particular attention needs to be paid to minimizing the dose of magnesium sulfate during and after the delivery. The magnesium sulfate, however, should be continued for 24 to 48 hours after delivery because postpartum worsening of the disease may occur. The development of postpartum eclampsia is an ever-present threat. Magnesium sulfate is excreted only through the kidneys, so its blood level will be increased with decreases in urine production. For that reason if the urine production is less than 1,000 ml per 24

Preeclampsia (continued)

hours (about 40 ml per hour) serum magnesium levels should be checked periodically to avoid the suppression of reflexes and ultimately the respiratory center by elevated levels of serum magnesium.

Stabilization of the patient's blood pressure and metabolic state occurs automatically in the majority of patients who are put to bed in the hospital. Urine volume normally increases; edema declines. Blood pressure often declines with bed rest, sometimes to normal levels, and ordinarily the amount of proteinuria declines as well. With lower blood pressure and less proteinuria, and when the patient does not have central nervous system signs (such as scotomata, headache, or blurred vision) or signs of liver involvement (epigastric

These deaths are preventable except in the most extreme circumstances.

pain, nausea, vomiting, liver tenderness, or liver enlargement), the patient can be considered stable and at minimum risk for induction of labor or the administration of an anesthetic for a cesarean section. The presence of cerebral and gastrointestinal symptoms are warning signs that the patient is not stable and that the disease is worsening. Administration of magnesium sulfate and the control of blood pressure by the use of intravenous hydralazine therapy is usually successful in controlling the progress of the disease, causing these symptoms to disappear and allowing the patient to become stabilized so that pregnancy can be terminated.

Intravenous hydralazine (Apresoline-R) therapy: Normal patients with a normal vasculature will tolerate blood pressure reduction. Once the systolic pressure exceeds 160 mmHg or the diastolic pressure exceeds 110 mmHg, blood pressure control therapy should be insti-

tuted. At present, the most effective and best-understood drug is hydralazine (Apresoline-R). This drug may be administered intramuscularly or by intravenous drip, but the most effective form of therapy and the one that produces the quickest response is the direct intravenous injection of 10 mg doses of hydralazine. The initial dose of 10 mg will establish the sensitivity of the patient to the drug. Within 10 to 15 minutes following the initial 10 mg dose, if the blood pressure does not show an adequate response, another dose of 10 mg should be administered. This process should continue until the blood pressure responds and declines to less than 140/90 mmHg. If the patient clearly demonstrates resistance to the drug, single intravenous doses of 20 to 30 mg at a time are appropriate.

It is an unusual patient who will not respond to this regimen utilizing both magnesium sulfate and hydralazine. Patients whose blood pressure is above 200 mmHg systolic or 120 mmHg diastolic and who do not respond to the above regimen often have more serious disease, such as an underlying vascular hypertensive disease or a pheochromocytoma. In such patients consultation is most appropriate. Transfer to a tertiary care center would be helpful, but this should not be carried out until the patient is as stable as possible.

The preceding outlined treatment regimen is the standard of care at the majority of major hospitals in the United States. There have been experiments with varying types of anti-convulsant therapy other than magnesium sulfate, and all have been found wanting. Similarly, blood pressure control is still best accomplished by intravenous hydralazine therapy.

Conclusion

The ultimate cure for the disease is delivery of the baby. Proper timing of delivery is dependent principally upon the severity of the disease. Waiting for fetal maturity is appropriate only in mild cases and for those patients whose disease is stable and who can be observed in the hospital.

In evaluating the Oklahoma deaths, it is apparent that in many cases the severity of the disease is often underestimated and the therapy instituted is either insufficient or in-

initiated too late in the course of illness to be of much value. It is surprising that both central nervous system symptoms and gastrointestinal signs — the symptoms that usually herald convulsions — are often ignored or attributed to other causes. Once eclampsia occurs, as indicated by the development of seizures or coma or both, maternal and infant mortality rates rise markedly. However, as indicated in the cases cited, sudden intervention with cesarean section in unstable eclamptic patients is more hazardous than waiting until the patient awakens and becomes stable. It is clear that diuretic use is of little value in any patient with preeclampsia and may very well be harmful in patients with more severe disease in which diuretic therapy, by further reducing blood volume, may reduce blood flow to vital organs as well as to the uterus and placenta.

The presence of proteinuria without either hypertension or edema is an unusual finding. When such proteinuria is evaluated quantitatively, the excretion of more than 1 or 2 g of protein per day is usually associated with significant renal disease or may simply be the initial signs of developing preeclampsia. Therefore, we think that when patients do not have hypertension or edema but do have 1+ or greater proteinuria, a 24-hour urine sample should be studied within a few days. If the patient excretes over 2 g of protein per day, she should be hospitalized to ascertain the cause.

Summary

In the past decade (1970-1979) preeclampsia-eclampsia has become the most frequent cause of maternal death in Oklahoma. These deaths are preventable except in the most extreme

circumstances. Proper management, prompt identification, immediate hospitalization upon diagnosis, use of magnesium sulfate and hydralazine therapy, and appropriate timing of delivery should virtually eliminate deaths from preeclampsia-eclampsia in patients who have had prenatal care. □

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Richard Jennings, MD, 2310 West 7th Street, Stillwater, Oklahoma 74070.

Richard Thomas Jennings, MD, is a 1974 graduate of the University of Oklahoma College of Medicine specializing in obstetrics and gynecology. He is currently a clinical instructor at University of Oklahoma Tulsa Medical College and is a member of the American College of Obstetrics and Gynecology.

Warren M. Crosby, MD, is a professor of obstetrics and gynecology at the University of Oklahoma College of Medicine. He earned his medical degree at the University of Kansas School of Medicine in 1957 and is a member of the American Association of Obstetrics and Gynecology.

A specialist in general preventive medicine, Sara Reed DePersio, MD, MPH, is clinical associate professor of gynecology and obstetrics at the University of Oklahoma College of Medicine. She is a Fellow of the American College of Preventive Medicine and chair of both the Maternal Mortality Committee of the Oklahoma State Medical Association and the Oklahoma County Medical Society's Community and Mental Health Committee. She was graduated from the University of Tennessee College of Medicine in 1965.

Immune Deficiency Presenting as Disseminated Sporotrichosis

STEPHEN E. MATTER, MD
DAVID M. BAILEY, MD
DANIEL J. SEXTON, MD

Immunocompromise must be considered when a normally benign disease such as sporotrichosis presents in a systemic manner and must be treated aggressively.

Sporotrichosis is an uncommon disease first described by Schenck in 1898.¹ The causative organism, *Sporotrichosis schenckii*, is distributed worldwide as a saprophyte on plants and shrubs and in soil. The disease is most often found among farmers, gardeners, and others having contact with soil or plants. The infection is usually acquired through cutaneous implantation following trauma, but on occasion, the organism may enter through the respiratory system^{2,3} or gastrointestinal system.⁴ The disease is usually benign, but if not treated, may follow a chronic course.

Cutaneous sporotrichosis usually remains confined to the skin and lymphatic system. Lesions are typically dusky red, gummalike nod-

ules, ulcers, and abscesses (Fig 1), which heal slowly while new lesions appear.^{5,6,7,8} The disease may spread by direct extension, lymphatics, and very rarely hematogenously.

Systemic sporotrichosis is extremely rare, and consequently the diagnosis is often delayed. The disease may involve many sites, including joints, bones, and the lungs. This report describes an apparently normal patient with an unusual case of systemic sporotrichosis, which led to the diagnosis of acquired immunodeficiency.

Case Report

The patient, a 53-year-old white female, was in her usual state of good health until early January 1982 when she developed symptoms of an upper respiratory infection which persisted for approximately ten days. Near the end of that illness she noted tenderness in the left lower side of her neck and subsequently sought medical attention. A physician noted a 2 x 2 cm soft, tender mass on the left side of the neck. There was no other lymphadenopathy detected. An ultrasound scan showed the mass to be cystic. A diagnosis of branchial cleft cyst was made, and observation was advised.

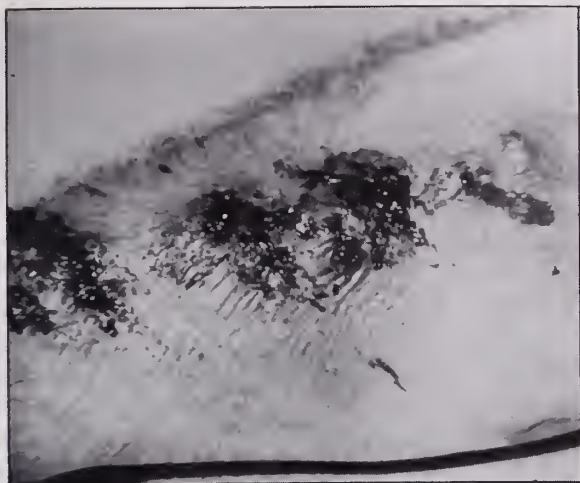


Figure 1.

During the following two weeks the mass increased in size, and surgery was advised. During surgery, the mass was found to contain purulent material. Gram stain studies revealed polymorphonuclear neutrophil leukocytes (PMNs) but no organisms, and results of aerobic and anaerobic cultures were negative. Microscopic study of the involved tissue revealed evidence of acute and chronic inflammation. Ten days later the wound opened spontaneously and drained purulent material (Fig 2). The patient was readmitted for further evaluation in May 1982. The purulent material again contained PMNs, but no organisms were seen. Results of aerobic and anaerobic bacterial cultures remained negative, as were the results of a Kenyon stain study. Mycobacterial and fungal cultures were



Figure 2.

Patient's Response to Mitogens

	11/2/82	1/26/83	Control
2-lambda PHA	1842	2800	64,000-134,000
1-lambda PHA	1689	2847	59,000-142,000
100 microgram ConA	544	1879	28,000-123,000
50 microgram ConA	437	1377	23,000-124,000
Pokeweed	679		12,000- 76,000

obtained. A diagnosis of retained elements of branchial cleft cyst was made, and the patient was taken to surgery for wound debridement. Once again the wound drained spontaneously after surgery. Fungal cultures revealed *S schenkii*. Shortly after the second surgery, a mass appeared on the patient's left upper arm, and an aspirate revealed purulent material containing *S schenkii*.

The patient denied a history of frequent infections. She had no history of recent fever, chills, or night sweats, nor of trauma to her neck or arm. She did work with rose bushes, but denied use of sphagnum moss. Her medical history was significant for poliomyelitis as a child, Graves' disease, and iron deficiency anemia. Medications included Inderal (for ventricular ectopy) as well as Synthroid, estrogen, and iron.

Physical finds were unremarkable except for the draining midline neck wound with several small, red satellite lesions; the 3 x 3 cm tender mass on the left upper arm; and decreased deep tendon reflexes on the left leg.

The patient was hospitalized and treatment with amphotericin B was begun on June 8, 1982; the patient had received 411 mg by the time she was discharged on June 27, 1982. She continued receiving amphotericin B from her personal physician. The total dose of amphotericin B was 1,191 mg. Resolution of the neck wound occurred.

At the time of the patient's discharge from the hospital, the gallium scan, liver-spleen scan, and brain scan revealed no other sites of infection. Because this normal-appearing patient had contracted this most unusual infection, her immunocompetency was evaluated. Results of skin tests for candida, trichophyton, mumps, and intermediate and second strength PPD were all negative. In vitro studies revealed no response to candida, PPD, or tetanus. The patient had normal numbers of T cells and B cells, with 34% active T lymphocytes. The T-cell function was evaluated, and surface immunoglobins were found to be normal, but reaction to mitogens was low (Table).

Discussion

Agents shown to be effective for sporotrichosis include iodides, amphotericin B, 5-fluorocytosine, and local applications of heat to the lesion site.⁹ Iodides remain the treatment of choice for the cutaneous-lymphatic disease.¹⁰

They were first used to treat sporotrichosis orally by De Beurmann.¹¹ Treatment with iodides is successful in most cases of cutaneous sporotrichosis. A dose of approximately 30 drops of Lugol's solution given perorally three times per day, up to a dose of 4 to 6 g per day has been effective in controlling the disease in six to eight weeks. Iodide therapy should be continued for one month following clinical remission.^{11,12}

Iodides are considered ineffective in cases of systemic, pulmonary, or osseous disease.^{3,8} Amphotericin B therapy has been effective in these cases. Cures have been reported with from 150 mg to 9 g. Amphotericin B reacts with the sterols in the cell membrane to effect damage and lyse the fungus.¹⁰ It is effective topically, but must be given intravenously to ob-

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tain effective serum activity. Cerebrospinal fluid drug levels are one-tenth serum levels. Some side effects of amphotericin are anorexia, nausea, vomiting, fever, chills, and evidence of nephrotoxicity. Most of the toxic responses resolve after the drug is discontinued. Amphotericin B therapy can be resumed following return of normal renal function.

Sporotrichosis is a rare disease usually manifest in the cutaneous form, but occasionally in the systemic form. The onset of the systemic illness can be insidious and may involve spread from a cutaneous inoculation or via inhalation of the organism. The lesions can present as a nontender swelling and can become ulcerated and form draining fistulae.¹¹

Systemic sporotrichosis has been reported recently in the immune-compromised host. While most patients with cutaneous disease show a normal cell-mediated immunity, most patients with systemic disease have significant abnormalities in their cell-mediated im-

munity.⁸ It appears that carcinoma, lymphoreticular disease, diabetes mellitus, corticoid therapy,⁷ and alcoholism,¹³ all of which may depress immune response, play an important role in the dissemination of sporotrichosis.⁷ These abnormalities range from depressed lymphocyte function to skin test anergy.^{8,14} Our patient had all of these abnormalities.

Serial lymphocyte studies currently reveal a slight improvement in this patient's immune response, but this improvement, observed following treatment with amphotericin, is so slight that it probably is not clinically significant. She remains immuno-compromised. Plouffe⁸ reported six patients with systemic sporotrichosis with deficient cell-mediated immunity, as measured by decreased lymphocyte transformation in response to PHA (stimulation index 29 ± 10) compared with normal subjects (stimulation index 86 ± 25 , p less than 0.05). Our patient also has a greatly decreased lymphocyte response. Plouffe successfully treated four of the six patients with amphotericin B, and two required immunotherapy because of protracted illnesses and deficient cell-mediated immunities. If our patient's wound had not responded to amphotericin B therapy, immunostimulant therapy would have been recommended.

Diagnosis of systemic sporotrichosis is difficult. Tuberculosis and syphilis can present as apparent sporotrichosis. Appropriate cultures are the key to the diagnosis, but will not be done unless fungal cultures are specifically requested.

This patient shows no evidence at this time of carcinoma, diabetes mellitus, or lymphoreticular disease, and has no history of corticoid therapy or alcoholism. She is presently doing well, and the cause of her cell-mediated immune deficiency is yet to be explained. The presence of any unusual and opportunistic infection should lead the clinician to suspect an immune deficiency state. □

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Stephen E. Matter, MD, 4312 North Classen Boulevard, Oklahoma City, Oklahoma 73118.

Stephen E. Matter, MD, a 1983 graduate of the University of Oklahoma College of Medicine planning to specialize in internal medicine, is currently an intern in Worcester, Mass.

A 1981 graduate of the University of Oklahoma College of Medicine, David M. Bailey, MD, is now a resident in internal medicine at the university.

Daniel J. Sexton, MD, is a clinical assistant professor at the University of Oklahoma College of Medicine and has a private practice in internal medicine and infectious diseases. He was graduated from Northwestern University Medical School, Chicago, in 1971.

THE COMMENTATOR.

That gum-chewing girl of yours can give you valuable pointers on the uses of conversation when she answers the telephone. Observe her curt replies to the elderly lady's request for detailed information as to the doctor's whereabouts. Note the long-drawn-out interview when her chum asks whether Charles called last evening. And if Charles should happen to call up on the telephone while you are in the office, you will learn how sweetly she can tell him, through the modulations of her voice, that the old man is in the office, and she cannot speak to him at present. That is, it is put in the most diplomatic language, but Charles knows just the same he is expected to call her up later, when the medical man is making his visits. Yes, indeed; many things can be learned in the way of expression right in your own office.

It's the trivial things that assist the most in bringing success. The physician who places his thermometer in an antiseptic solution, conveniently within reach of his desk, and dries it carefully, and perhaps a trifle ostentatiously, with a clean napkin or small towel, before placing the instrument under his patient's tongue, has done more to command his confidence and win his good-will than the most learned discourse the physician could make regarding the ailment. The act implies many things unexpressed by the physician. Its neglect has caused many a doctor

to wonder why his practice is so small and unremunerative.

Formerly a doctor feared to be caught reading a medical book, because it seemed to imply that he had so little knowledge it needed replenishing. Nowadays, it is really considered by the average layman quite the thing, and the doctor rises in the estimation of such a man. In the past, "Doc." was supposed to know the entire contents of the formidable-looking volumes in the rickety old book-case, and a reference to them implied ignorance. That's changed now. People are more intelligent. They realize that much reading is necessary to keep up with the great advances in the science.

The custom of advising against future pregnancies because the first one has been somewhat severe and exhausting, is still followed by a few obstetricians when making their last call upon the young mother. To the imaginative mind of the woman the physician's word carry a meaning greater than perhaps he intended, and much marital unhappiness results. These are usually young men with little experience in obstetrics, who give themselves airs, and wish to show their superior wisdom. Such advice should never be given save a careful consultation with two other obstetricians.

—*Journal of the Oklahoma State Medical Association, April 1909*

Extrahepatic Bile Duct Cancer: A Review

RUSSELL G. POSTIER, MD
ROBERT A. RANKIN, MD
G. RAINEY WILLIAMS, MD

Extrahepatic bile duct cancer causes death in most cases by bile duct obstruction. Effective means of achieving bile duct drainage are now available and have increased our ability to extend palliation and increase chances for cure in these patients.

Extrahepatic bile duct cancer is uncommon and is often misdiagnosed and inadequately treated. Even when treatment is optimal, the disease is associated with significant morbidity and mortality. Better understanding of the major causes of morbidity and newer surgical techniques for long-term internal biliary tract decompression have resulted in improved results and have prompted this review.

From the Departments of Gastroenterology and Surgery, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma.

History

In 1840, Durand-Fardel first reported an extrahepatic bile duct cancer in man and, 38 years later, Schueppel described hepatic duct carcinoma.¹ In 1940, Stewart and associates reviewed the world literature up to 1936 and were able to find 104 cases with history and microscopic study sufficient to establish the diagnosis of cancer of the extrahepatic bile ducts.² Sako, et al, in 1957, reported an additional 570 cases gleaned from the world literature from 1935 to 1954.³

The operative history of bile duct cancer begins with Hesper, who, on June 28, 1892, opened and closed a patient with a cancer of the confluence of the bile ducts. The second operation for bile duct cancer, a cholecystostomy, was performed on the same patient by Hesper two days later. This patient died eight days after his first operation.²

Since that time, other methods of operative treatment have been described. Total excision of a proximal bile duct cancer with inser-

tion of a radium implant was first reported by Walters and Olson in 1935.⁴ Pancreaticoduodenectomy for pancreatic carcinoma was first performed by Whipple in 1935 and subsequently was used in treating distal bile duct cancer.⁵ Transhepatic stenting, described by Goetze in 1951, was used in the 1960s by Prad-eri as palliative treatment of bile duct cancer.^{6,7}

Epidemiology

Cancer of the bile ducts is present in approximately 0.5% of patients coming to autopsy.³ The average age at diagnosis is 59.2 years with a range of 20 to 89 years. The male to female ratio is 3:2.³ Although the etiology is unknown, several interesting associations have been noted. Gallstones are found in 20% to 57% of patients with bile duct cancer, numbers higher than those in a comparable age group without bile duct tumors.^{2,8} Ulcerative colitis is associated with an increased incidence of cancer of the bile ducts. In a review of 200 patients with ulcerative colitis at the Johns Hopkins Hospital, 2 had associated bile duct cancer.⁹ Conversely, of 103 patients with bile duct cancer in a report by Ross, et al, from the Lahey Clinic, 8 had associated ulcerative colitis.¹⁰ The concurrence of ulcerative colitis and bile duct cancer appears to be greater than would occur by chance, and the risk of bile duct cancer in patients with ulcerative colitis does not appear to be affected by proctocolectomy.⁹

Choledochal cysts are associated with a 9% to 24% incidence of bile duct carcinoma. Patients with choledochal cysts who develop bile duct cancer tend to do so at an earlier age than those without choledochal cysts.^{11,12}

There are also reports of an association between bile duct cancer and colon cancer, familial polyposis, and biliary papillomas, but these occurrences are probably coincidental.^{10,13,14}

Pathology

The pathological classification of bile duct cancers is not well standardized and, as a result, the literature contains numerous heterogeneous and inconsistent classifications. A simple way to group these tumors is based on their gross and microscopic appearance. By gross appearance, tumors can be divided into three categories: nodular, infiltrating, and papillary. The importance of the macroscopic characteristics of the tumors is emphasized in the Japanese report of Todoroki, et al. Four of

23 patients studied had papillary tumors, all of which were amenable to surgical resection; all patients were alive and free of disease at 30 to 62 months after surgery.¹⁵ Tumors are placed in four descriptive histologic categories: adenocarcinoma, infiltrating scirrhous carcinoma, papillary adenocarcinoma, and anaplastic carcinoma, each of which can be further categorized as well differentiated, moderately well differentiated, and poorly differentiated.¹⁶

The anatomic location of bile duct tumors has been emphasized as important in both treatment and prognosis and is divided into three areas: (1) the upper region, including the left and right hepatic ducts, their confluence, and the proximal common hepatic duct; (2) the common hepatic and common bile duct in the region of the cystic duct; and (3) the distal common bile duct above the ampulla of Vater. The relative frequency with which tumors occupied these locations was studied by Sako in a series of 500 site-specified lesions. One hundred twenty-six were in the upper portion, 171 in the middle portion, and 203 in the lower portion.³

Clinical Presentation

The clinical presentation of carcinoma of the bile ducts has been defined in several series. The Cleveland Clinic series is representative, and findings from it are summarized. Jaundice was the most common clinical finding and occurred in 89% of the patients. Hepatomegaly occurred in 59%. Weight loss of greater than 10 pounds occurred in 53% of the patients. Pain, located in the epigastrium or right upper quadrant, occurred in 39%. The gallbladder was palpable in only 4% of the patients. Only 10% of the patients had fever or chills attributable to cholangitis, making this a relatively rare finding. Laboratory findings of note are those of obstructive jaundice. Elevated alkaline phosphatase and bilirubin levels were present in greater than 95% of the cases. Decreased serum albumin level was seen in 50% of the cases. A prolonged prothrombin time, usually correctable with vitamin K, was found in approximately one-third of the cases.

Diagnosis

Careful history, physical examination, and liver enzyme measurements will usually support the presumptive diagnosis of obstructive jaundice. Further studies are required to de-

Extrahepatic (continued)

fine the level of obstruction. Ultrasound examination of the upper abdomen will usually reveal dilation of intrahepatic bile ducts. If dilated bile ducts are seen and the patient is jaundiced, percutaneous transhepatic cholangiography should be carried out to define the level of obstruction. Because of the viscosity and density of the bile, complete filling of the biliary tree is not always accomplished, and the true nature of the obstructing lesion may not be appreciated. Thus, care must be taken to adequately fill the biliary tree.¹⁷ If the patient's bilirubin level is greater than 10 mg % when the transhepatic cholangiography is done, serious consideration should be given to an attempt to pass a guidewire and, subsequently, a pigtail catheter through the obstruction into the GI tract to allow for resolution of the hyperbilirubinemia and improvement in liver function prior to surgery.^{18,19} Adequate decompression can be accomplished by leaving the catheter in the bile duct above the tumor, but occlusion and dislodgement are troublesome problems with this technique. If incomplete biliary obstruction is suspected (that is, the patient is not jaundiced or is only mildly jaundiced), endoscopic retrograde cholangiography is an alternative to transhepatic cholangiography.

Treatment

The optimal treatment for bile duct cancer is determined by several factors including condition of the patient, anatomic location of the tumor, local spread, and presence or absence of distant metastases.

Distal Tumors. Tumors in the distal portion of the common bile duct are often difficult to distinguish from cancer in the head of the pancreas either preoperatively or intraoperatively. During surgery, direct biopsy, needle biopsy, or aspiration cytology should be used to establish a diagnosis of cancer. Once a diagnosis of cancer is confirmed, therapy depends on the extent of local invasion and presence of distant metastases. If the tumor and any regional nodal metastases can be encompassed in a pancreaticoduodenectomy, this is the treatment of choice. The pancreatic tail should be preserved in most instances. If local invasion or distant metastases preclude curative resection, pallia-

tive choledochenterostomy should be carried out with or without gastroenterostomy, depending on the degree of duodenal invasion. In selected patients, pancreaticoduodenectomy may be preferable for palliation since the operative mortality rate for both bypass and pancreaticoduodenectomy is approximately 5% to 10%.²⁰

Mid-Duct Tumors (Common bile duct near cystic duct take-off). Tumors of the middle portion of the bile ducts, if small and resectable, may be treated by local excision and hepaticojejunostomy if adequate margins can be obtained distally. This is particularly appropriate for the sclerosing carcinoma initially

**Gallstones are found
in 20% to 57% of patients
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cancer.**

emphasized by Altemeier, et al, in 1957.²¹ This tumor is easily overlooked because it is not a bulky lesion. Any mid- or proximal duct stenosing lesion should be biopsied during surgery to ensure that this rather innocuous-appearing lesion is not overlooked. If adequate distal margins cannot be obtained, pancreaticoduodenectomy should be carried out.^{22,23} For unresectable lesions, transection of the common hepatic duct above the lesion with hepaticojejunostomy, usually with transhepatic stenting, should be performed.²³ Examination of frozen sections may be necessary to define upper extension of the tumor.

Proximal Tumors (Hepatic duct at its bifurcation, or left or right hepatic duct). Proximal bile duct cancers have long been recognized as being different from the more distally placed tumors with regard to rate of growth and propensity to early metastasis. Credit for this recognition is generally given to Gerald Klatskin because of his detailed study of 13 cases reported in the *American Journal of Medicine* in 1965.²⁴ However, Stewart, Lieber, and Morgan, in the *Archives of Surgery* in 1940, reported 48 cases of proximal bile duct cancer in which the disease was still localized

without metastases at the time of death and subsequent autopsy in 54%. The cause of death in the majority of their patients was not metastatic disease or direct invasion of other structures, but unrelieved biliary tract obstruction. They stated, "Generally speaking, then, symptoms appear early, the neoplasm is slow growing and metastases occur late. . . . Early diagnosis and early operation while the patient's condition is not yet critical yield vastly more satisfactory results. . . . Although the surgeon has a limited field in which to work, in a number of cases cited resection of the primary neoplasm followed by re-establishment of biliary flow by implantation of the hepatic duct into the gastrointestinal tract was satisfactorily accomplished."²

From this and many reports since, it is apparent that the potential for long-term palliation existed if techniques were developed that would allow for long-term biliary drainage.^{8,21} There also existed the potential for cure if more radical resections were employed. T-tube or Y-tube intubation of these tumors was attempted as palliation with variable success, primarily limited by the tendency for these tubes to migrate into the distal biliary tree, as well as their propensity to become occluded by biliary sludge.^{23,24,25}

These problems were at least partially overcome by the development of the technique for transhepatic stenting suggested by Goetze in 1951 and Prader in 1961, and popularized by Smith in 1964.^{6,7,26} This technique allows for dilation of the tumor from below and placement of a silastic tube with side holes through the tumor into the peripheral bile duct, through the liver parenchyma, and out through the skin. The lower end of the stent is either placed in the distal common bile duct or brought into a Roux-en-Y loop of jejunum which is anastomosed end-to-side into the bile duct below the tumor. This allows for long-term decompression of the biliary tree with a firm but relatively inert tube which can be changed as needed over a guidewire under fluoroscopic control. Others have brought the distal end of the stent out the jejunal loop and through the skin as a U-tube.²⁷ Placement of transhepatic stents is the procedure of choice for patients with locally unresectable tumors or tumors with nodal or liver metastases which cannot be encompassed in an en bloc resection. It may be preferable to pass two tubes, one into each hepatic duct, if this is done. There is some evidence that radiotherapy given by external

beam and iridium seeds placed within the lumen of the transhepatic stents add significantly to the length of survival.²³

In rare cases, scarring from previous surgery or masses of nodes will make dissection of the porta hepatis difficult and dangerous enough to preclude dilation of the tumor and passage of transhepatic stents from below. In such cases the Longmire procedure can be used to establish biliary drainage.²⁸ This procedure will normally allow the return of liver function test results to near normal even if only the left lobe of the liver is drained. A modification of the Longmire procedure (percutaneous placement of a catheter into the peripheral portion of the left hepatic duct to facilitate operative location of this duct) has

The outlook for this once uniformly fatal disease is now improved.

been developed which decreases the technical difficulty of the procedure.²⁹

Another technique for management of these cases is cholangiojejunostomy between the bile duct in segment III, identified just to the left of the falciform ligament, and a Roux-en-Y jejunal limb. This technique, described by Bismuth and Corlette, is advocated by Malt and appears to be an alternative to the Longmire procedure.^{30,31}

As greater experience has developed and more radical approaches have been tried, more localized tumors high in the porta hepatis have been found to be resectable for potential cure.^{23,32,33} Usually a core of liver tissue is excised in the porta hepatis surrounding the right and left hepatic ducts, with care taken to avoid the portal vein branches. The common bile duct is then transected below the tumor with the distal duct ligated. Using upward traction on the proximal end of the transected bile duct, the bile duct with tumor is dissected proximally to a point above the uppermost extent of tumor in each hepatic duct and transected. Each hepatic duct is then anastomosed to a single Roux-en-Y jejunal loop using a transhepatic stent. Postoperative external beam radiotherapy, as well as iridium seeds placed within the stents, can be used in an at-

tempt to further increase the chance for cure or long-term palliation. As experience has increased with both palliative and potentially curative operations for proximal bile duct cancer, the operative mortality rate has fallen to under 5%.³⁶

Prognosis

The outlook for this once uniformly fatal disease is now improved and depends on the anatomic location, extent of local spread, and gross and microscopic appearance of the tumor.

For distally placed tumors, the 5-year survival rate after pancreaticoduodenectomy for cure is approximately 30%, with an average survival time of 3.2 years. For this same group of patients, in whom resectable disease is present but who underwent only bypass, the 5-year survival rate is 0 and the mean survival time is 1.4 years.^{20,35}

For patients with tumors of the middle portion of the bile ducts who are resected for cure, the 5-year survival rate is about 31%. One patient in Longmire's series died of intra-pancreatic recurrence 11 years after resection for cure; thus, 5-year survival rates with this disease probably do not indicate cures. Average length of survival in this group of patients with locally unresectable disease who undergo palliative bypass is less than 1 year.²³

The results of therapy for proximal bile duct tumors are clearly improving. In Stewart's 1940 study, the overall mean survival time of this group of patients was 4.6 months, with the patients who were operated

tients still alive) is 16.5 months. In 32% of their patients, all gross tumor was removed at operation, allowing for potential cure. External radiotherapy combined with internal iridium seeds was used in most cases.³⁶ Long-term survival after palliative intubation of these tumors with transhepatic stents is not uncommon, with some authors reporting patients alive more than 5 years after surgery.²⁷ The key element in palliative therapy is adequate biliary decompression, which is best accomplished with transhepatic stenting of both the right and left ductal system.

Summary

Extrahepatic bile duct cancer is a relatively uncommon disease that, in the majority of cases, results in death by biliary tract obstruction. The operative approach to these lesions is difficult and demanding but can result in significant palliation in most cases and a potential for cure in many. □

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**The key element
in palliative therapy is
adequate biliary
decompression.**

surviving 7.6 months.² In Klatskin's study, 12 of 13 patients died of their disease; the mean survival time was 15.5 months. All those who died did so as a result of hepatocellular failure.²⁴ In Cameron and Broe's recent review of the Johns Hopkins experience with 25 patients, the mean survival time (with 10 pa-

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Russell G. Postier, MD, Department of Surgery, University of Oklahoma Health Sciences Center, PO Box 26307, Everett Building, Room 2005, Oklahoma City, Oklahoma 73126.

Russell G. Postier, MD, assistant professor and director of the residency training program, Department of Surgery, University of Oklahoma Health Sciences Center, specializes in general and vascular surgery. He earned his medical degree from the University of Oklahoma in 1975 and holds memberships in the Association of Academic Surgeons, Southwestern Surgical Society, and Association of Program Directors in Surgery.

Robert A. Rankin, MD, is assistant professor, Department of Medicine, University of Oklahoma Health Sciences Center, where he specializes in gastroenterology and internal medicine. He is a 1973 graduate of the University of Iowa Medical School and a member of the American Gastroenterological Association and the American Society for Parenteral and Internal Medicine.

Professor and head of the Department of Surgery, University of Oklahoma Health Sciences Center, G. Rainey Williams, MD, is a general surgeon. He was graduated from Northwestern University School of Medicine, Chicago, and is now a member of the American Surgical Association, American College of Surgeons, Southern Surgical Association, and Society of University Surgeons.

Book Reviews

SAUNDERS' POCKET MEDICAL FORMULARY.

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Saunders' Pocket Medical Formulary. By William M. Powell, M.D., author of "Essentials of Diseases of Children." Containing 1831 formulas from the best known authorities. With an appendix containing Posologic tables, formulas and doses of hypodermic medication, poisons and their antidotes, diameters of the female pelvis and fetal head, obstetric table, diet-lists, materials and drugs used in antiseptic surgery, treatment of asphyxia from drowning, surgical remembrancer, tables of incompatibles, eruptive fevers, etc. Ninth edition, adapted to the 1905 Pharmacopeia. Philadelphia and London. W.B. Saunders Company, 1909. In flexible morocco, with side index, wallet and flap. \$1.75 net.

W. B. Saunders Company, Philadelphia and London.

This is a valuable little work worth more than its price to the busy practitioner.

Appendicitis and Diseases of the Vermiform Appendix. By Howard A. Kelly, M.D., with 215 original illustrations, some in colors and three lithographical plates. This is a handsome octavo volume of over 500 pages, published by J. B. Lippincott Company, Philadelphia. Price, cloth \$6.00 net.

This work is a compact resume dwelling with especial care on the practical side of the subject of Appendicitis and other diseases of that useless organ. The book treats of the Etiology, Pathology, the differential diagnosis, the treatment before operation and the post-operation treatment and in fact almost anything that the reader cares to know about the subject.

The illustrations are the very best that can be made, and the book taken as a whole is one of the most useful of modern books.

—Journal of the
Oklahoma State Medical Association
April 1909



News From The Oklahoma State Department of Health

At its July 1983 meeting, the Oklahoma State Board of Health added seven diseases to the list of diseases reportable to the Oklahoma State Department of Health. These new additions bring the total of reportable diseases in Oklahoma to 41. For each, reports from Oklahoma are sent to the Centers for Disease Control, where national trends are monitored. A summary of the disease additions follows.

1. *Hemophilus influenzae* invasive disease. *H influenzae* is the most common cause of bacterial meningitis in childhood. In addition, it is responsible for an almost equal number of cases of arthritis, epiglottitis, cellulitis, and pneumonia. An estimated 15,000 to 20,000 cases of this invasive disease occur annually in the US; 200 to 300 cases occur in Oklahoma. There is clear evidence that children who are household-type contacts of patients with *H influenzae* disease have a one to two percent risk of acquiring the disease through secondary spread. Rifampin is effective in eliminating carriage of *H*

influenzae, and a recent study (not yet published) has shown that rifampin decreases the risk of secondary *H influenzae* disease. The Oklahoma State Department of Health recommends rifampin for certain household and day care center contacts. These recommendations have been outlined in the October 10, 1983, *Communicable Disease Bulletin*.

2. Acquired Immune Deficiency Syndrome (AIDS). Over 3,000 AIDS cases have been reported nationwide, seven of which were Oklahomans. Reports are compiled to determine national trends, possible risk factors, etc.

3. *Giardia* infections. *Giardia* is the most common parasitic infection recognized in Oklahoma. In spite of the fact that it was only recently made reportable, over 250 cases of giardiasis were reported in Oklahoma in 1983. Most cases probably arise from person-to-person spread and from day care contact.

4. *Campylobacter* infections. *C jejuni* is a common cause of diarrheal disease. In some states it is more frequently reported than salmonella or shigella.

5. Legionnaire's Disease. Sporadic cases have been reported in Oklahoma since 1980. The Centers for Disease Control has an ongoing national surveillance program.

6. Toxic Shock Syndrome. Usually associated with tampon use in menstruating women. The Centers for Disease Control has an ongoing national surveillance program.

7. Kawasaki Disease. A pediatric disorder, also called mucocutaneous lymph node syndrome, of unknown etiology. It is generally felt to be an infectious disease; clusters of cases have been recognized. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR JANUARY 1984

Disease	January 1984	January 1983	January 1984	Total to Date	
				1984	1983
Amebiasis	—	—	—	—	—
Aseptic Meningitis	1	8	1	1	8
Brucellosis	—	—	—	—	—
Encephalitis, Infectious	—	1	—	—	1
Gonorrhea (Use Form ODH-228)	1,067	1,368	1,067	1,067	1,368
Hepatitis A	31	20	31	31	20
Hepatitis B	15	16	15	15	16
Hepatitis Unspecified	5	9	5	5	9
Malaria	—	—	—	—	—
Measles (Rubeola)	—	—	—	—	—
Meningococcal Infections	2	1	2	2	1
Pertussis	1	1	1	1	1
Rabies (Animal)	5	7	5	5	7
Rocky Mountain Spotted Fever	—	—	—	—	—
Rubella	—	—	—	—	—
Salmonellosis	13	15	13	13	15
Shigellosis	8	5	8	8	5
Syphilis (Use Form ODH-228)	11	22	11	11	22
Tetanus	—	—	—	—	—
Tuberculosis	12	20	12	12	20
Tularemia	—	—	—	—	—
Typhoid Fever	—	—	—	—	—

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Lyle Kelsey resigns OSMA post, joins OKC nursing care provider

Oklahoma State Medical Association Deputy Executive Director Lyle R. Kelsey has resigned effective April 1, 1984.

The announcement came at the OSMA Board of Trustees meeting in February. The Board accepted Kelsey's resignation with regret, thanks for his many contributions to Oklahoma medicine, and wishes for continued success.



Kelsey leaves OSMA after seven years to become executive vice-president/director of marketing for Allied Nursing Care, Inc., 50 Penn Place, Oklahoma City. The company provides skilled nursing services in the home to the patients of physicians throughout the state of Oklahoma.

While with OSMA, Kelsey served as staff for the Council on State Legislation, the Oklahoma Medical Political Action Committee (OMPAC), and the Physician's Care Committee.

His experience with the legislative process was perhaps best demonstrated with last year's gubernatorial veto of House Bill 1394 which would have mandated insurance reimbursement for such controversial treatments as IAT, laetrile, and chelation therapy.

"It has been a distinct pleasure working for the physicians of the Oklahoma State Medical Association. I have appreciated not only your confidence and respect but also the respect I personally have received for being associated with this most honorable and ethical of professions. Since I will remain in the health care field, I look forward to continuing the many friendships I've gained during the last seven years," Kelsey said. □

OSMA Board of Trustees awards Life Memberships to state doctors

Thirteen Oklahoma physicians were awarded OSMA Life Memberships at the OSMA Board of Trustees meeting held February 19, 1984. Elected as Life Members were: Martin H. Bartlett, MD, Sapulpa; Charles J. Bate, MD, Tulsa; Eugene A. Durso, MD, Norman; Fred T. Fox, MD, Lawton; Minor E. Gordon, MD, Claremore; Worth M. Gross, MD, Tulsa; James F. Hohl, MD, Ada; Orval L. Parsons, MD, Lawton; Herschel J. Rubin, MD, Tulsa; Joseph D. Weedn, MD, Duncan; Sol Wilner, MD, Tulsa; Douglas E. Wilson, MD, Lawton; and Richard E. Witt, MD, Tulsa. E.N. Lubin, MD, Tulsa, was elected at the November 1983 board meeting. □

OSMA 1984

May 10-12

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Oklahoma State Medical Association
601 N.W. Expressway
Oklahoma City, Oklahoma 73118
405-843-9571

Program

OSMA Annual Meeting

1984 Scientific Program

Friday, May 11

- 8:00 AM—"The Differential Diagnosis of Arthritis"; Presented by Smith, Kline and French
- 10:45 AM—"Nutritional Facts and Fantasies, Mysteries and Myths"; Stephen R. Newmark, MD, Director of Nutrition and Metabolic Support Center, Saint Francis Hospital, Tulsa
- 2:30 PM—"Early Detection of Breast Cancer"; Marvin Romsdahl, MD, University of Texas, M.D. Anderson Hospital and Tumor Institute, Houston, Texas
- 3:45 PM—"Medical Economics: Private Practice in the 1980s"; Stephen Landgarten, MD, Medical Director, Hillcrest Medical Center, Tulsa

Saturday, May 12

- 8:00 AM—"Sexually Transmitted Diseases of the 1980s"; Larry Edwards, MD, Chairman, Department of Internal Medicine, City of Faith Hospital, Tulsa
- 9:15 AM—"Antibiotic Update—1984"; Jerry Smilack, MD, Clinical Instructor, Department of Internal Medicine, University of Texas Southwestern Medical School, Dallas

Specialty Society Programs

Oklahoma Academy of Otolaryngology Head and Neck Surgery

Saturday, May 12

- 8:30 AM—"Evaluation and Management of Epistaxis"; Larry Demas, MD, Stillwater
- 9:45 AM—"Tracheostomy Update"; Tony Loehr, MD, Tulsa
- 11:00 AM—"Facial Paralysis: Practical Considerations"; Robert Keim, MD, Oklahoma City

(continued)

Surgery Section

(The Surgery Section is sponsored by the University of Oklahoma Health Sciences Center, Department of Surgery.)

Saturday, May 12

- 8:00 AM—Introductions by G. Rainey Williams, MD
- 8:10 AM—"Current Status of Continence Sparing Operations in Ulcerative Colitis"; R. G. Postier, MD, Assistant Professor Surgery, OUHSC
- 8:45 AM—"New Trends in the Management of Biliary Tract Disorders"; G. Rainey Williams, MD, Professor and Department Head of Surgery, OUHSC
- 9:10 AM—"Update on Zollinger-Ellison Syndrome"; C. H. Organ, Jr., MD, Professor of Surgery, OUHSC
- 10:00 AM—"Current Status of Surgery for Peptic Ulcer Disease: Role of PGV"; J. P. Cannon, MD, Associate Professor of Surgery, OUHSC
- 10:30 AM—"New Techniques in the Diagnosis and Treatment of Peripheral Vascular Disease"; M. A. Jacocks, MD, Assistant Professor of Surgery, OUHSC
- 11:00 AM—Open Panel Discussion

Emergency Medical Services Section

Saturday, May 12

- 9:30 AM—"Review of Pre-Hospital Devices: Esophageal Obturator Airway, Anti-Shock Military Trousers, McSwain Dart, and Mechanical Chest Compression"; Robert J. Wilder, MD, Medical Director, Division of Emergency Medical Services, Oklahoma State Department of Health
- 10:30 AM—"Legal Responsibility of the Physician, Friend, Advisor, Consultant, or Medical Director — Volunteer or Paid"; By a representative from the law firm of Short, Barnes, Wiggins, Margo, Adler, and Worten, Oklahoma City
- 11:30 AM—"State Guidelines for Training of Emergency Medical Technicians: Basic, Advanced, Cardiac, and Paramedics"; Gary Forbis, Director, Division of Emergency Services, Oklahoma State Department of Health.

Oklahoma Society of Plastic Surgeons

Saturday, May 12

The Oklahoma Society of Plastic Surgeons will conduct its annual business meeting and a scientific program during the Shangri-La meeting. It will begin with a luncheon on Saturday, May 12, followed by a two-hour scientific program.

Oklahoma Society of Internal Medicine

Friday, May 11, and Saturday, May 12

The Oklahoma Society of Internal Medicine will sponsor a special program on Friday, May 11, for medical office managers and medical assistants on the business and legal aspects of practice. The program will begin at 12 noon with a luncheon speaker whose topic will be "Legislation and Your Doctor," followed at 2 PM by a panel discussion entitled "What Happens When DRGs Come to Your Office!"

On Saturday, May 12, the OSIM program will begin at 9 AM with a presentation for physicians and office personnel entitled "Marketing Medicine Is OK." This will be followed at 1 PM by a panel discussion "Computerizing the Medical Office."

Board of Trustees and House of Delegates

All meetings of the OSMA Board of Trustees, House of Delegates, and Reference Committees will be held in Shangri-La's Convention Center.

Thursday, May 10

9:00 AM—OSMA Board of Trustees Annual Meeting

12:30 PM—OSMA House of Delegates
Opening Session

2:30 PM—OSMA House of Delegates
Reference Committees

Friday, May 11

7:30 AM—OSMA Past Presidents' Breakfast

6:00 PM—OSMA President's Reception

7:00 PM—OSMA President's Inaugural Dinner Dance

Saturday, May 12

12:30 PM—OSMA House of Delegates
Closing Session

2:00 PM—Delegates and Guests
Late Lunch in the Hogan

Social Events

M*A*S*H Party

On Thursday evening at 6 PM, relive your own military days or your remembrances of the television series during the OU College of Medicine Alumni M*A*S*H Party and Dinner. Come dressed as your favorite M*A*S*H character and you might win a prize! Have a drink at Rosie's Bar, and at chow call enjoy such military delicacies as "SOS" and whatever else the cook can barter from the locals.

Then you can dance to the music of the Forties and Fifties . . . and we might even throw in some Sixties and Seventies!

(continued)

President's Inaugural Dinner Dance

A formal cocktail reception at 6 PM on Friday evening will begin the President's Inaugural Dinner Dance. Special music will be furnished by the Red Rice Combo. Dinner will be served at 7 PM.

The dinner honors George H. Kamp, MD, of Tulsa, current OSMA President, and President-Elect James B. Eskridge III, MD, of Oklahoma City. Special guest speaker will be humorist "Doc" Blakely, PhD, of Wharton, Texas. Following dinner you can dance till midnight to the music of the full Red Rice Orchestra.

Friday Luncheon

A luncheon, "Dinner in the Diner," will be served in Shangri-La's beautiful Golden Eagle Room and hosted by the OSMA Auxiliary. Beginning at 12:30 PM, the luncheon will feature a special music program by Dr Horace English, professor of music at the University of Science and Arts of Oklahoma in Chickasha. The luncheon is open to all physicians and/or their spouses.

Sports Events

Tennis

Beginning at 8:45 AM on Thursday morning, May 10, there will be a Round Robin Women's Tournament (doubles only). The men's tennis tournament, with both singles and doubles competition, will get underway at 11 AM and will run until approximately 5:30 PM. There will be two flights in men's singles: Flight A — age 49 and under; and Flight B — age 50 and over. There are no age brackets in the doubles events.

Golf

Tee-off time for the annual OSMA Golf Tournament will be 12 noon on Thursday, May 10.

Running

A 10-kilometer competitive run and a 2-mile-run will be held Thursday morning and are open to both men and women. Starting time is tentatively scheduled for 11 AM. Actual starting times will be posted at the OSMA registration desk in Shangri-La's Conference Center early Thursday morning.

Questions regarding sports events should be directed to Rick Ernest, OSMA headquarters.

Registration and Ticket Orders

To participate in any sports or social events you must preregister and purchase tickets in advance using the forms provided in the information packet mailed to all members in March. Forms for room reservations were also included in the packet.



Attorney receives layman award. James B. Eskridge III, MD, (left) president-elect of the Oklahoma State Medical Association, presents the OSMA Board of Trustees' 1983 Outstanding Layman Award to Oklahoma City attorney George F. Short in recognition for his many contributions to the medical profession.

Athletic young asthma patients eligible for new scholarships

The Asthma & Allergy Foundation of America (AAFA) has announced a new \$21,000 college scholarship program for high school students who, despite the handicap of asthma, excel in sports as well as academic studies.

Known as the Asthma Athlete of the Year competition, the program has been made possible by a grant from Schering-Plough Corporation. Beginning this year, six scholarships will be awarded, with the top four-year scholarship totaling \$10,000.

The object of the program is to demonstrate that young asthma patients can participate in an active physical life rather than remaining always on the sidelines.

Nominating ballots for the AAFA scholarships are being distributed to physicians specializing in the treatment of asthma and bronchial and chest disorders. Ballots may also be obtained from local AAFA chapters or by writing AAFA, 1302 Eighteenth Street NW, Suite 303, Washington DC 20036. Deadline for submission of ballots is October 31, 1984. □

Flow cytometer at OTH lab counting cells with laser beam

Physicians at the Oklahoma Teaching Hospitals (OTH) are now employing an innovative tool, the laser flow cytometer, in understanding the mechanics of diseases such as cancer and acquired immune deficiency syndrome (AIDS).

Flow cytometry is useful in the study of the human internal defense system because of its ability to distinguish one white blood cell type from another, to count the various types, to provide a comparison of cell subpopulations, and to sort out a pure sample of a given cell type for further study.

"It is no longer enough to say that a patient has a certain number of white blood cells or that they don't. Today you must have information about the subclasses," says Dr Lawrence E. DeBault, director of the flow lab at Oklahoma Children's Memorial Hospital. The laboratory serves all OTH physicians.

The optics of the flow cytometer see light from a laser beam scattered off fluorescently

tagged cells and their fluorescence as they flow, one by one, through a glass capillary tube. A microcomputer processes the information gathered from thousands of cells in the three or four minutes it takes to complete one test.

Until flow cytometry entered the medical arena, such studies required hours to complete. Testing was done manually by laboratory professionals aided only by conventional microscopes.

"To do the test by hand is fraught with errors. By using flow cytometry one can eliminate the statistical counting errors inherent in the manual method," Dr DeBault notes.

An international symposium on flow cytometry, its uses in cytopathology, and how physicians can apply this technique to diagnosis and clinical management of patients will be held Thursday through Saturday, May 31 through June 2. Further information can be obtained from Dr De Bault at (405) 271-2031. □



AMA president visits state. Frank J. Jirka, Jr., MD, president of the American Medical Association, was in Oklahoma City January 30 for a speaking engagement. He also visited the University of Oklahoma Health Sciences Center, held a press conference at OSMA headquarters, and visited the governor's office. Pictured at the governor's office are Lyle Kelsey, OSMA deputy executive director; James B. Eskridge III, MD, OSMA president-elect; Dr Jirka; Governor George Nigh; George H. Kamp, MD, OSMA president; Mike Feldman, fourth-year medical student; and David Bickham, OSMA executive director.

Pets and people live together, kill each other with kindness

Pets in the American household may be hazardous to the health of their owners unless precautions are observed.

Articles appearing recently in the *Journal of the American Medical Association (JAMA)* document several health hazards associated with pet ownership. Animal bites, scratches, flea ingestion, and mere face-to-face cuddling can result in infection and even death, according to the reports.

Among the cases reported is that of a 47-year-old woman who contracted plague pneumonia while trying to comfort her ailing cat. Attention included face-to-face cuddling. Both cat and owner died.

"This episode documents that an animal with plague pneumonia can transmit plague bacilli to humans by the airborne route to cause primary plague pneumonia," say S. Benson Werner, MD, of the California Department of Infectious Diseases, and colleagues. "The increasing number of human plague infections in recent years associated with pet contact illustrates that pets, especially cats, should be considered in investigations of patients with suspected plague."

The source of the cat's infection was probably a chipmunk that the cat had killed and brought home five days prior to the cat's death, the researchers say.

In another report, rodents and/or their fleas are suspected as the ultimate cause of bubonic plague in a 10-year-old Oregon girl. Researchers say the girl contracted the disease via a scratch from a cat that had been infected, presumably by contact with infected wild rodents or their fleas. The girl recovered fully after a seven-day hospital stay.

Arkansas researchers write of a case of hydatid cyst disease that a woman apparently had contracted from her pet dog some ten years prior to diagnosis. The dog, a farm animal, had often been fed the offal from butchered swine.

Also documented is the case of a 20-year-old California man who experienced life-threatening hemorrhage after being bitten on the hand by a supposedly harmless red neck keelback snake purchased at a pet store. It is thought that the snake, which bit its owner as it was being fed, had been attracted by the smell of food on the man's hand. □

Impaired physicians among best patients in recovery programs

Physician patients appear to benefit more from alcohol and drug abuse rehabilitation programs than nonphysician patients. Close monitoring by medical peers and the risk of losing professional privileges may be motivating factors.

These conclusions are drawn from a study by Mayo Clinic researchers reporting in a recent issue of *Journal of the American Medical Association (JAMA)*. Their findings show that 44 (83%) of 53 impaired physicians were successful in abstaining from alcohol and other drugs after rehabilitation compared to 87 (62%) of 141 nonphysician patients.

"Most of our physician patients, in contrast to the nonphysicians, were forced to begin their outpatient rehabilitation under a probationary reporting system," say Robert M. Morse, MD, and colleagues. "This may range from formal monitoring by the state licensure board, to review by hospital staff, to being overseen by concerned partners." Enforced abstinence during the monitoring period may

give rehabilitation efforts a greater chance to become effective, the authors say.

The Mayo study also shows that physicians who have a history of multiple previous admissions and/or severe professional difficulties recovered as fully as did those with lesser problems. In the light of these findings, even the most profoundly addicted physicians should be given the opportunity for treatment, the researchers advise.

Nearly 90% of the 53 physicians who participated in rehabilitation programs returned to practice. However, 38% subsequently changed their practice in some way, often to a more structured setting such as a hospital-based or group practice.

The researchers compare the physicians' success rate to similar high rates seen in rehabilitated airline pilots. "Perhaps the motivation to recover is stronger when the occupation at risk is high status, competitively sought, and identified closely with personal image and prestige," they conclude. □

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June 6	Telephone Collecting Medical Accounts	Oklahoma City
June 7	Law for Medical Offices	Oklahoma City
June 19	Medical Office Management	Tulsa
June 20	Telephone Collecting Medical Accounts	Tulsa
June 20	Computers in the Medical Office	Tulsa
June 21	Law for Medical Offices	Tulsa
August 18	Managing Your Practice (For Physicians Only)	Tulsa
August 25	Managing Your Practice (For Physicians Only)	Oklahoma City
October 23	Medical Office Management	Tulsa
October 24	Telephone Collecting Medical Accounts	Tulsa
October 24	Computers in the Medical Office	Tulsa
October 25	Law for Medical Offices	Tulsa
October 30	Medical Office Management	Oklahoma City
October 31	Telephone Collecting Medical Accounts	Oklahoma City
October 31	Computers in the Medical Office	Oklahoma City
November 1	Law for Medical Offices	Oklahoma City

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Health forum conducted in Tulsa. At the "Health Policy Forum for the '80s" in Tulsa, George H. Kamp, MD, OSMA president, introduces guest panelists John R. Ball, MD, JD, FACP; Bryan R. Luce, PhD, Health Care Financing Administration; Richard Horkey, president, Hillcrest Foundation; John K. Iglehart, special correspondent, *New England Journal of Medicine*; Norman Dunitz, MD, president, Tulsa County Medical Society; and Bob Jones, executive director, Oklahoma Osteopathic Association. The forum was held February 13 at Tulsa's Sheraton Kensington Hotel.

Final illness prolonged by rigid brain death criteria

Standards now used to establish brain death may be too rigid, prolonging dying at great expense and anguish to family and community, say researchers from the Bowman Gray School of Medicine in Winston-Salem, NC.

Writing in the *Archives of Neurology*, Edward V. Spudis, MD, and colleagues say that because of strict brain death criteria, "we believe many severely ill patients, who would have been declared dead prior to 1969, have been zealously maintained on life-support systems waiting for heart and renal failure.

"We are especially concerned that this may be occurring in cautious community hospitals where other techniques for measuring brain activity may not be available or commonly used for that purpose," they add.

The standard now used depends upon electroencephalography (EEG) readings of brain waves having an amplitude of $2\mu\text{V}$.

"Many patients, however, who have no chance of returning to a 'cognitive sapient state' may be nurtured throughout a lingering, wrenching final illness because of brain waves that fluctuate to levels slightly greater than $2\mu\text{V}$," the researchers say.

"When the line between brain life and death, $2\mu\text{V}$, is so close to the noise level in a



Whittington attends health policy forum. Kenneth W. Whittington, MD, vice-chairman of the OSMA Board of Trustees, poses a question at the "Health Policy Forum of the '80s" in Tulsa. The conference drew over 200 physicians, hospital administrators, and community business leaders.

typical portable recording situation, it seems likely that conservative interpreters tend to describe borderline fragments as significant," they add.

The writers suggest that EEG rhythms hovering in the 2- to $4\mu\text{V}$ range may be false-positive signs of brain life, and that the terms "present" or "absent" brain waves should be avoided. Instead, physicians should be concerned with the range of amplitude for any forms that appear to be brain waves. □

Deaths

THOMAS L. OZMENT, MD
1915 - 1984

Tulsa ophthalmologist Thomas L. Ozment, MD, died February 11 in Harrisburg, Ill. A 1941 graduate of Washington University

School of Medicine, St Louis, he was a member of the American College of Surgeons and the American Association of Ophthalmology. Ozment had practiced medicine in Missouri and California before coming to Oklahoma in 1954.

In Memoriam

1983

<i>John A. Brasfield, MD</i>	<i>April 15</i>
<i>George M. Adams, MD</i>	<i>May 3</i>
<i>John R. Reid, Jr, MD</i>	<i>June 14</i>
<i>Gilbert E. Haslam, Jr, MD</i>	<i>June 15</i>
<i>Thomas A. Trow, MD</i>	<i>June 23</i>
<i>Richard D. Mullett, MD</i>	<i>June 28</i>
<i>Aaron C. Little, MD</i>	<i>July 1</i>
<i>Michael C. Manning, MD</i>	<i>July 3</i>
<i>Hillard E. Denyer, MD</i>	<i>August 8</i>
<i>Edward A. Allgood, MD</i>	<i>August 18</i>
<i>Hugh E. Wilson III, MD</i>	<i>August 27</i>
<i>Harold J. Black, MD</i>	<i>September 1</i>
<i>Marque O. Nelson, MD</i>	<i>December 24</i>
<i>Park H. Medearis, MD</i>	<i>December 26</i>
<i>Charles S. Beaty, MD</i>	<i>December 28</i>

1984

<i>Jack H. Foertsch, MD</i>	<i>January 19</i>
<i>Thomas L. Ozment, MD</i>	<i>February 11</i>
<i>Thomas L. Foster, MD</i>	<i>February 25</i>
<i>Ella Mary George, MD</i>	<i>March 1</i>

THOMAS L. FOSTER, MD
1903 - 1984

Thomas L. Foster, MD, died in Ponca City February 25. Board certified in psychiatry and mental hospital administration, Foster moved to Ponca City from Kansas in 1960. He was instrumental in the formation of the Bi-State Mental Health Foundation and was on its medical staff and the staff of St Joseph Medical Center until his retirement in 1979. He earned his medical degree from Columbia University in 1925 and became a Life Member of the Oklahoma State Medical Association in 1975. He was also a life member of the American Psychiatric Association and a member of the Mid Continent Psychiatric Society.

ELLA MARY GEORGE, MD
1900 - 1984

OSMA Life Member Ella Mary George, MD, of Oklahoma City, died March 1. Prior to her retirement, Dr George had pursued a practice in physical medicine rehabilitation at University and Veterans' Administration hospitals. She came to Oklahoma from Dallas, where she had practiced after being graduated from Baylor University College of Medicine in 1933. Her Life Membership was awarded in 1977.



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Book Review

Disorders of Calcium and Phosphate Metabolism in Childhood and Adolescence.

By Harold E. Harrison and Helen C. Harrison.
Philadelphia: W. B. Saunders Company, 1979.
Pp 314, illustrated \$30.

Drs Harold and Helen C. Harrison, a husband-wife team, have been studying calcium and phosphate metabolism for more than 30 years. It can be firmly stated that their work has touched on every facet of this field including studies of vitamin D metabolism. This monograph, Volume 10 in the series *Major Problems in Clinical Pediatrics*, brings together in an impressive and organized fashion

their investigative and clinical observations. It provides a critical review of knowledge about calcium and phosphate metabolism and related disease states including rickets and osteomalacia, other bone disorders, urolithiasis, and ectopic calcification. The monograph is quite readable, and contains excellent illustrative photographs and thoughtfully selected references. It is highly recommended.

*Harris D. Riley, Jr, MD
Children's Memorial Hospital
University of Oklahoma Health Sciences Center
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Miscellaneous Advertisements

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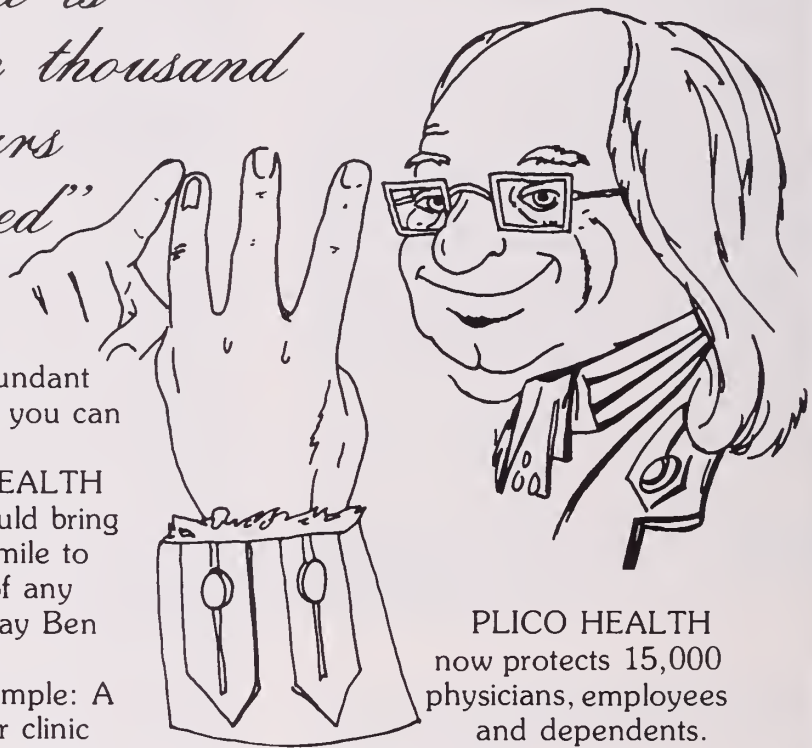
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Staffed by volunteer specialists—an internist, a dermatologist, a gynecologist and a surgeon—and one salaried secretary to handle the record-keeping, the recycled vehicle left Oklahoma City and headed north. Its first stop was Tonkawa,^{1,2} where advance publicity had drawn women from nearby towns, farms and reservations, all seeking the proffered examinations.

Cooperative effort

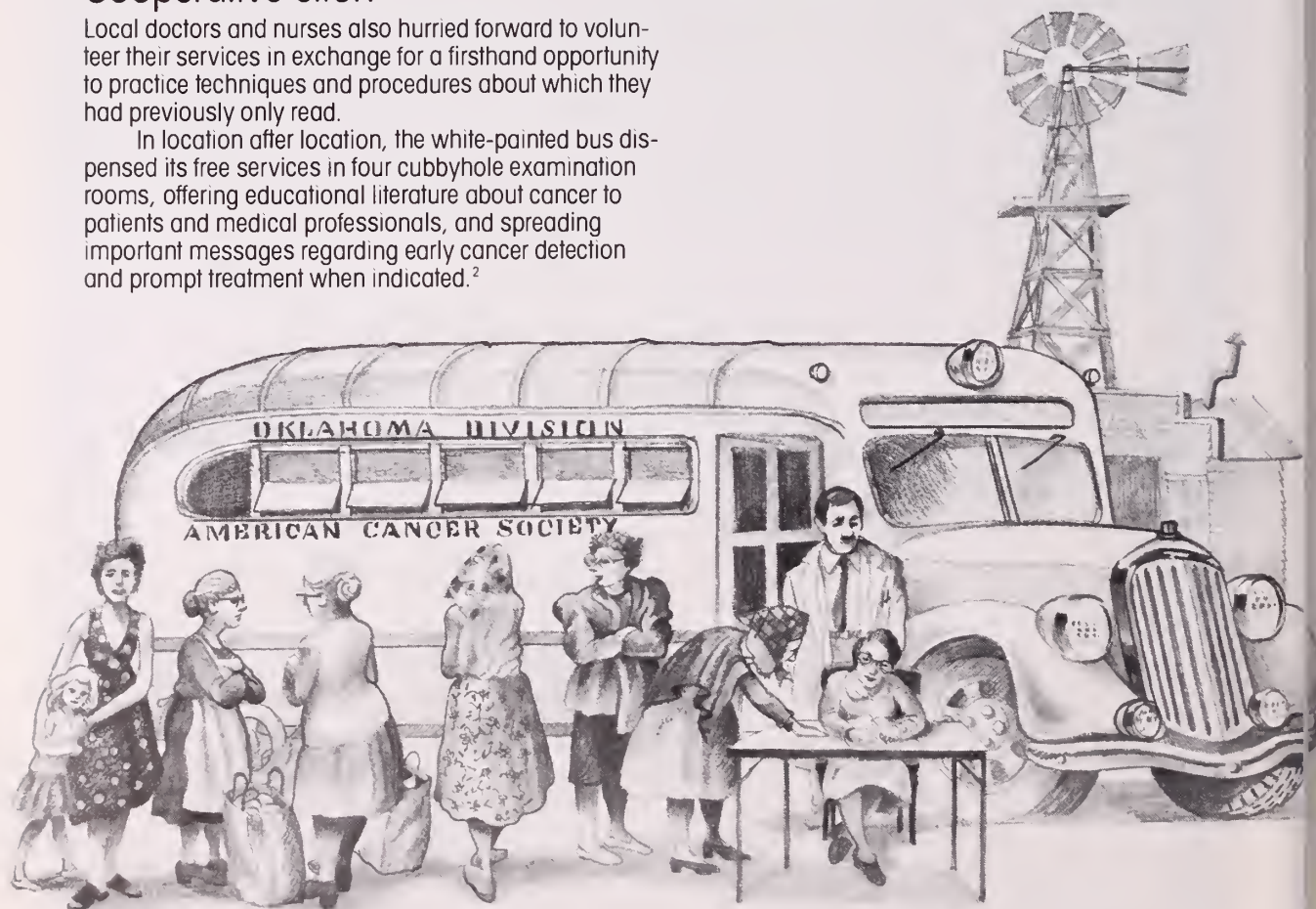
Local doctors and nurses also hurried forward to volunteer their services in exchange for a firsthand opportunity to practice techniques and procedures about which they had previously only read.

In location after location, the white-painted bus dispensed its free services in four cubbyhole examination rooms, offering educational literature about cancer to patients and medical professionals, and spreading important messages regarding early cancer detection and prompt treatment when indicated.²

The idea caught on

Today, it is not surprising to see a modern medical services vehicle on wheels in shopping-center parking areas, schoolyards or business centers. Community service organizations sponsor and support them all across the country. Unquestionably, they have come a long way in equipment and comfort from the school bus that pioneered vital health services... but *it* was the bus that made medical history.

References: 1. Kane JN. *Famous First Facts*, 3rd ed. New York, The H. W. Wilson Co., 1964, p. 367. 2. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.



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For the estimated 70 percent of nonpsychotic depressed patients who are also anxious,¹ Limbitrol provides both amitriptyline, specific for symptoms of depression, and the effects of Librium® (chlordiazepoxide HCl), the tested and dependable anxiolytic. Limbitrol is, therefore, a better choice for these patients than dual agents that contain a phenothiazine, a class of antipsychotic drugs used infrequently in nonpsychotic patients.¹

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Limbitrol also has a rapid onset of action which may lead to greater patient compliance. In a multicenter study, patients taking Limbitrol experienced 62% of their overall improvement within the first week of therapy.²

In another multicenter study,³ the following symptoms associated with anxious depression were significantly reduced during the first two weeks of therapy:

- ☐ Headache—79%
- ☐ Early insomnia—91%
- Middle insomnia—87%
- Late insomnia—89%
- ☐ Gastrointestinal upset—73%

In two multicenter studies, only 1.9% of Limbitrol patients experienced cardiovascular side effects.³

Patients should be cautioned about the combined effects with alcohol or other CNS depressants and about activities requiring complete mental alertness such as operating machinery or driving a car.

References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, edited by Jarvik ME, New York, Appleton-Century-Crofts, 1977, p 316. 2. Feighner JP *et al*: *Psychopharmacology* 61: 217-229, Mar 1979. 3. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

The specific antianxiety/antidepressant

Limbitrol®

Tablets 5-12.5 each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)

Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt)

Please see summary of product information on following page.

LIMBITROL® TABLETS[®] Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those at barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema at face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, myiasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, Prescription Paks of 50.



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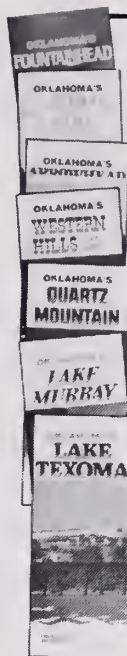
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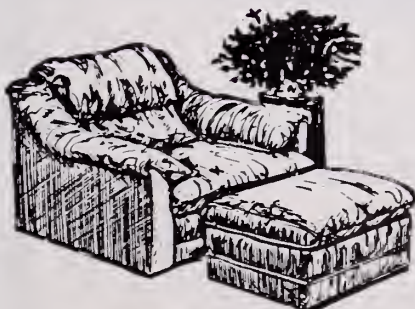
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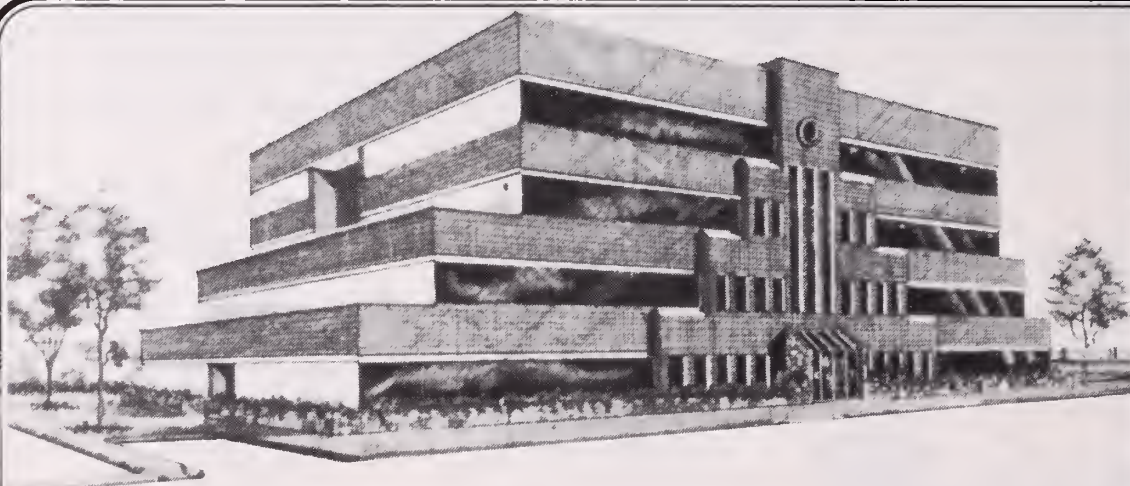
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Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name and author, title or article, name of periodical with volume number, page and date of publication. These references should be numbered in the sequence in which they appear in the article.

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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. General and miscellaneous advertising rates will be sent on request.

EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

REPRINTS

Authors will receive reprint order forms from the Transcript Press, PO Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

OSMAA 1984 ANNUAL MEETING

May 10 - 12, 1984

Shangri-La Resort

SCHEDULE OF EVENTS

Thursday, May 10

7:30 AM to 5:00 PM	Registration
8:00 AM	Women's Tennis Tournament
8:00 AM	Nurses Loan Fund Committee
9:00 AM	Long Range Planning Committee
9:00 AM to 5:00 PM	Hospitality
10:00 AM	Pre-Convention Executive Board Meeting
12:30 PM	Luncheon: "Changing Crews" 1983-84 and 1984-85 Executive Board Members and Members-At-Large
2:30 PM	"Getting More Out of Your Day," David L. Schmidt, Management Consultant
6:00 PM	M*A*S*H Party

Friday, May 11

7:30 AM to 5:00 PM	Registration
7:30 AM to 5:00 PM	Hospitality
7:30 AM	Past Presidents' Breakfast
8:30 AM to 9:00 AM	Credentials Check
9:00 AM	House of Delegates and Installation of Officers AMA Auxiliary President Glenda Bates, Special Guest
12:30 PM	Luncheon: "Dinner in the Diner" Guest Soloist: Horace English, bass-baritone
2:30 PM	"Don't Be A Victim," Ed Kelsay, OSMA Legal Counsel
6:00 PM	OSMA Inaugural Dinner Dance Reception
7:00 PM	OSMA Inaugural Dinner Dance

Saturday, May 12

7:30 AM to 1:30 PM	Hospitality
7:30 AM	Registration
9:00 AM	Post-Convention Executive Board Meeting
10:00 AM	Tours: Shopping HarBer Village

OTHER ACTIVITIES

Other sporting events will be listed in the program mailed to members in March.

Please register for tours in the Hospitality Room.

Tickets for the "Dinner in the Diner" luncheon, M*A*S*H Party, and President's Inaugural Dinner Dance must be purchased in advance using the registration and ticket order form.

■ **The Health Care Financing Administration (HCFA) and the Area Agencies on Aging in Oklahoma** have joined together to provide a toll-free line to respond to questions about Medicare coverage or Medicare Supplemental Insurance. Persons having questions about what is covered by Medicare, how to file claims, how to obtain the maximum amount of Medicare, and how to appeal the amount paid on a claim can obtain this information by calling collect (405) 272-0297.

■ **The public gave physicians a very favorable** evaluation on accessibility, knowledge of medicine, dedication, and humility, according to a public opinion poll released by the AMA Department of Survey and Opinion Research. However, the profession did not score as well in the areas of fees/income, MD/patient interactions, access to care among the poor and elderly, and public faith in physicians. The poll showed a widening gap between the respondents' generally positive image of their own physicians, and their somewhat more negative view of the profession as a whole.

■ **The average incidence of professional liability** claims during the past five years has more than doubled compared with the period before 1978, reports the AMA Center for Health Policy Research. The number of annual claims per 100 physicians jumped from 3.3 before 1978 to eight each year since 1978. The survey found that physicians incur other costs in addition to those associated with liability insurance premiums. Of those physicians with claims filed against them within the past five years, 12.5% hired attorneys to augment the legal counsel provided by their insurance companies. The most common physician responses to the increasing risk of claims have been to keep more detailed patient records (57%), to refer more patients to other physicians (45%), and to prescribe additional diagnostic tests (41%).

■ **Childhood epilepsy is the subject** of a three-year federally funded study being launched by Dr John Bodensteiner, Department of Pediatrics, and Dr Linda Cowen, Department of Biostatistics and Epidemiology at the University of Oklahoma Health Sciences Center. The study is attempting to enumerate all cases of seizure disorders in children (from birth through age 19) in Oklahoma and Cleveland counties. All physicians whose specialties might include the treatment of one or more children with seizures were sent a survey form in March. In addition, hospital and EEG laboratory records will be checked. For further information on the study, call Dr Cowen, (405) 271-2229.

■ **Physicians under 40 years of age** made up 41.8% of the physician population in 1981, according to figures available from the AMA Physician Masterfile.

■ **Apheresis for the treatment** of chronic, severe rheumatoid arthritis has not been shown to be effective, according to a recommendation issued recently by the Clinical Efficacy Assessment Project of the American College of Physicians (ACP). The recommendation stresses the need for further investigation. The one exception noted concerns the rare, life-threatening form of rheumatoid arthritis, rheumatoid vasculitis. Patients with this disease may be prime candidates for a trial course of plasmapheresis, says the ACP.

■ **The first report of cocaine snorting** resulting in intracranial bleeding appeared recently in *Archives of Neurology*. Peter J. Lichtenfeld, MD, of State University of New York of Stony Brook, and colleagues wrote of two cases of subarachnoid hemorrhage precipitated by cocaine snorting. Damage identified by CT scans included an aneurysm that required surgery and a large arteriovenous malformation.

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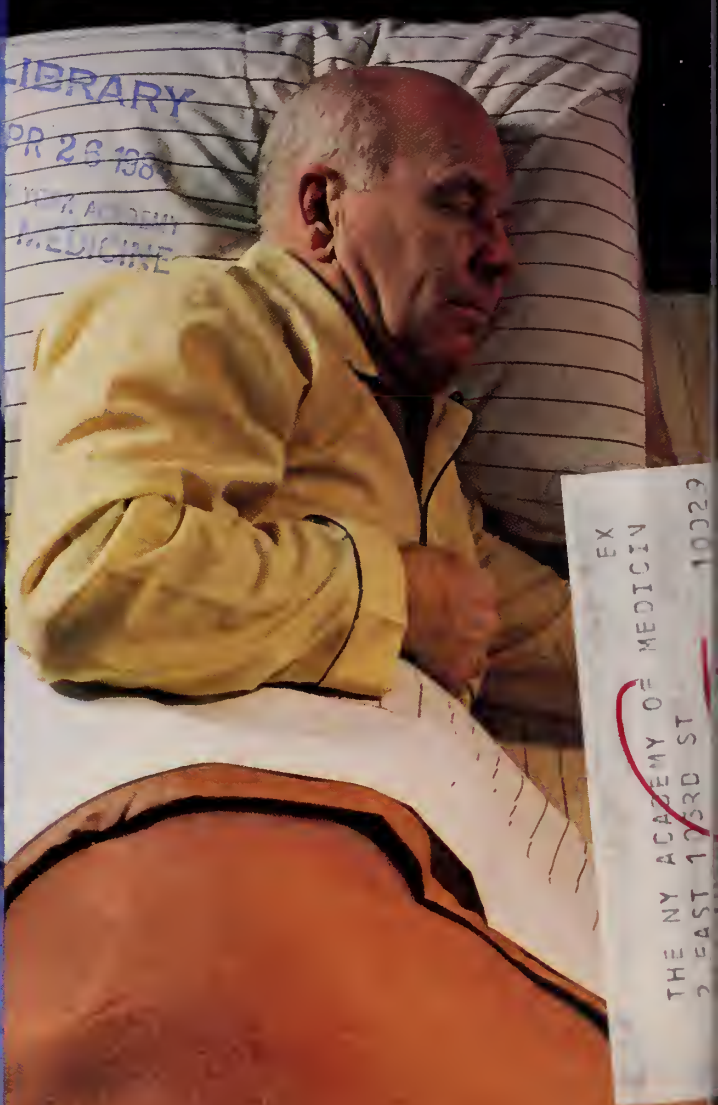
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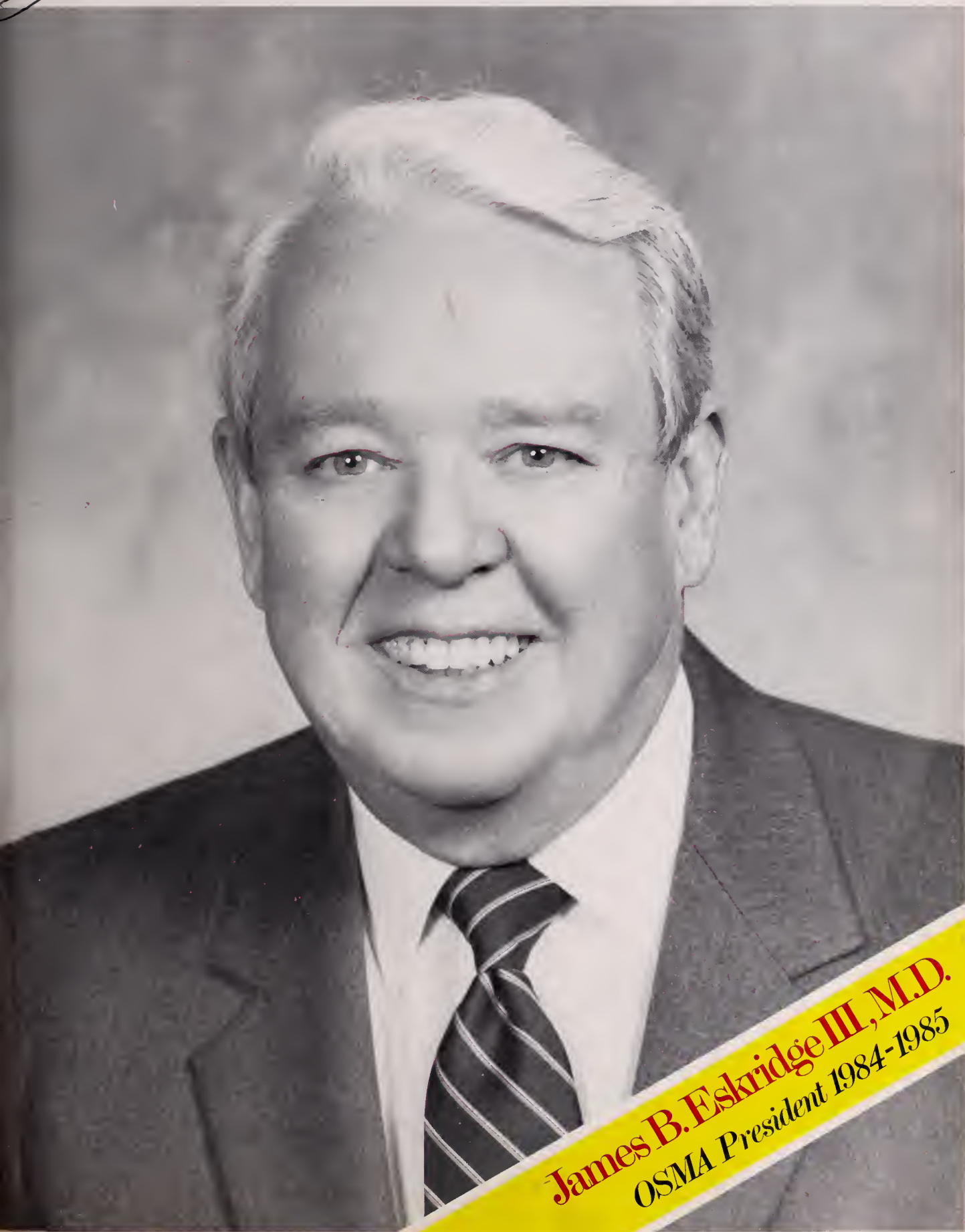
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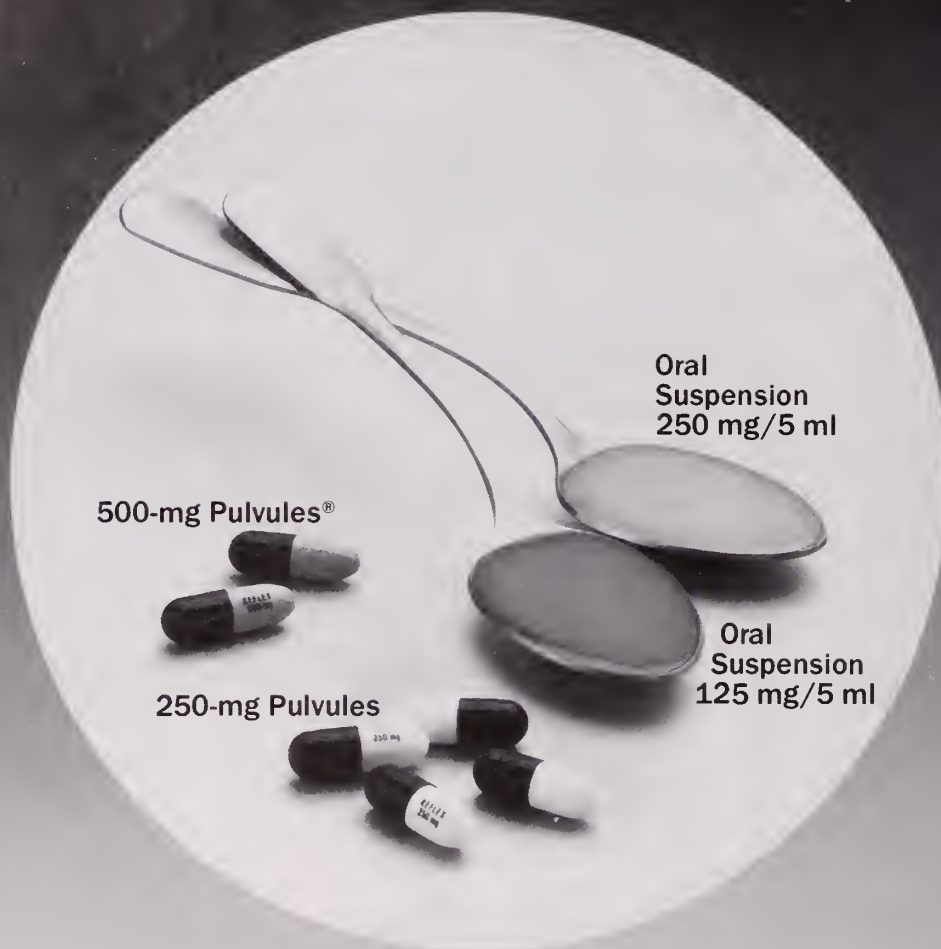
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Oklahoma State Medical Association

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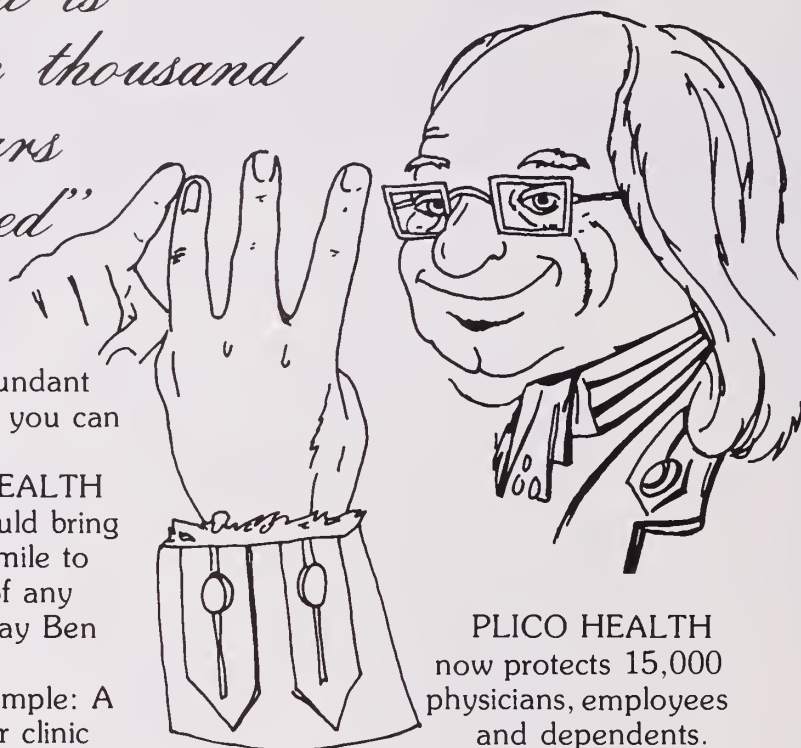
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Plans for Oklahoma's Future

In recent weeks, the medical problems of Oklahoma's pregnant women and their pre-term and sick infants have been addressed by a group of concerned Oklahoma leaders. Many of you recall filling out a questionnaire from the Perinatal Committee regarding your perceptions about maternity and infant care in Oklahoma. More than 600 physicians, accounting for more than 60% of the births in Oklahoma, returned their answers in this survey. Using this and many other sources, the Task Force on Perinatal Care in Oklahoma has prepared two reports of interest to all Oklahoma physicians. The first, released in July,¹ was an

Related article, p 142.

assessment of the perinatal problems and needs of the state. It detailed our soberingly poor records on the utilization of prenatal care, the availability of infant intensive care, and the high cost of long-term handicap after bad pregnancy outcomes.

In December, on a happier note, the task force published an Oklahoma State Plan² for dealing with our perinatal care situation. This plan has been endorsed in principle by the OSMA State Legislative Council and is being endorsed by numerous other civic and professional groups. It calls for the saving of misery and money by investments in preventive care and education — all aimed at reducing maternal and infant morbidity and mortality to the lowest attainable levels.

Within the proposed plan are components to:

1. Organize six perinatal planning and education regions in the state with regional councils to plan the proper perinatal approach for the local circumstances.
2. Staff and support these regions in conducting planning and education on perinatal care.

3. Pay for prenatal care by local providers so that all pregnant women might have access to care promptly.

4. Provide equipment and inpatient care facilities in certain locations to support the upgrade of services.

5. Improve the emergency transportation of sick infants and mothers.

6. Save money by transporting the recovered patients to their home hospitals as soon as they are ready.

7. Encourage a uniform approach to high-risk pregnancy including risk-assessment methods and information systems.

8. Educate the women of Oklahoma about the need for and the availability of prenatal care.

9. Develop pregnancy support programs for expectant mothers at risk.

10. Support the special follow-up needs of sick infants.

11. Develop appropriate prenatal care clinics in underserved areas.

12. Focus state, federal and private resources on the problems of perinatal preventive care.

History demonstrates that without these programs, Oklahoma will lose more than 1,200 young lives each year. Nearly 4,200 children will be born prematurely. At least 180 will have severe lifelong handicaps and 450 more will be born with birth defects or genetic problems. We are well aware that such a program cannot prevent all such problems, but we are certain that **many** can be prevented and with them we can prevent a great deal of waste in lives and dollars.

In fact, we will spend at least \$20 million needlessly **each year** for every year we fail to provide quality prenatal care to all who need it. These expenditures include \$8.6 million in handicapped education in state schools, \$5.4 million in special education, \$5.2 million in public assistance to the blind and disabled, and \$0.7 million in repeat hospitalization of sick infants.

Oklahoma's future (continued)

The details of these and other calculations as well as the specific proposals of the plan are contained in the State Perinatal Plan. Copies are available from the Maternal and Child Health section of the State Department of Health.

We need your input and support as we work for passage of legislative and budgetary support for this plan. House Bill 1822 contains the enabling provisions for a modest beginning. Senate Bill 425 requires family insurance policies (which already must cover newly born children immediately) to cover medically necessary transport of infants to appropriate special care facilities and back to the regional/referring hospitals as indicated. Other provisions will follow later in the session in support of funding for these services.

The members of the Task Force on Perinatal Care in Oklahoma hope that each physi-

cian in the state will be able to lend support to the initiation of this plan to support the health needs of our next generation.

Roger E. Sheldon, MD

Hal B. Vorse, MD

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Roger E. Sheldon, MD, is associate professor of pediatrics at the University of Oklahoma Health Sciences Center. The 1968 Northwestern University Medical School graduate specializes in pediatrics and neonatal-perinatal medicine. He is a member of the Southern Society for Pediatric Research.

Coauthor Hal B. Vorse, MD, is a clinical instructor of pediatrics at the University of Oklahoma Health Sciences Center and a Fellow of the American Academy of Pediatrics. He was graduated from the University of Oklahoma College of Medicine in 1968.

Thank you for offering me the opportunity of serving you as President of the Oklahoma State Medical Association for the next twelve months. I hope I serve you well!

* * * *



Having said this, I invite each of you to visit the Association's headquarters office on Oklahoma City's Northwest Expressway, I-44 at Shartel, whether for business or pleasure. Recently, while waiting for something to happen or someone to come, I thumbed through the Past Presidents' portraits displayed on a dictionary stand in the entrance foyer, including Indian Territory Medical Association Presidents and OSMA Presidents, up to and including C. Riley Strong, '73-'74.

I was amazed at how many of these revered men I had known . . . E. S. Ferguson, '29-'31, took out my tonsils . . . LeRoy D. Long, the only man to be President of ITMA, '00-'01, and OSMA, did my appendectomy about the time he was OSMA President, '34-'35. Such medical school favorites are there as George Garrison, '49-'50, . . . he looks suave and dapper, not unlike he looks today! . . . and John F. ("Jack-Flack") Burton . . . as stern in his portrait as I remembered him then, but underneath he was "softhearted John."

Each of these distinguished Past Presidents had his own brand of wisdom or claim to fame; each has contributed in no small measure to our present-day OSMA. However, I relate better to those "modern-day" Past Presidents who faced problems as perplexing, or even more so, as those we face today. Harlan Thomas, '64-'65, braved the gathering storm clouds of "Eldercare," King-Anderson, "Medicare," and others, asked the Association through the JOURNAL . . . "Are you ready? . . . to fight for your rights as citizens of this great country." He and his predecessor, Joe Duer, '63-'64, wrote wisely and in depth, ably complemented by an aggressive young(er) articu-

late Chairman of the Council on Public Policy, Rex Kenyon, who pressed for "Operation Waiting Room," hoping to generate "10,000 letters arriving in the offices of Oklahoma's Congressmen and Senators every day" . . . in opposition to HR 3920, the Medicare Bill. Kenyon himself, '65-'66, and Scott Hendren, '68-'69, who spoke out against PL 89-749, PL 97-174, and others, eloquently presented learned opposition to the steady government encroachment which still confronts OSMA Presidents today.

More recently, the considerable contributions of such presidents as Orange Welborn, '76-'77; William M. Leebron, '79-'80; Stanley McCampbell, '72-'73; C. S. Lewis, '77-'78; and the most recent quartet of Miller, Pitts, McIntyre, and Kamp have further enhanced the position of this Association . . . yet the tides of legislation, regulation, limitation, litigation, competition, and even damnation from some quarters continue to thwart our best endeavors for the benefits of our patients.

* * * *

George Garrison tells the story of his first crisis as OSMA President, surfacing the morning after his Inauguration in Tulsa. Somehow a professional gambler had infiltrated the Annual Meeting Poker Game on Inaugural Night, cleaning out the doctors involved according to the headlines in the Tulsa papers, but sparing George who, by his own admission, slept soundly the whole night! Later, though, other more serious problems occurred and were resolved successfully.

May we in positions of trust fare as well with the multiple problems ahead. With YOUR HELP . . . and willingness to stand up with us and be counted, when appropriate . . . we will again succeed, be th' Good Lord willin'!!

George Garrison, M.D.

Preterm Birth: An Issue for Every Physician and Politician

PAUL L. TOUBAS, MD
ROGER E. SHELDON, MD

Preterm birth is preventable through education and regular healthcare. Poor prenatal care leads to higher prematurity rates and contributes to family instability and higher health care and educational costs shared by society.

I. The Happy Facts, or The Proud Physician

The number of births in Oklahoma has steadily increased from 45,000 in 1975 to nearly 61,000 in 1982, a record.¹ This secondary "baby boom" is connected to the fact that babies born during the primary post-World War II baby boom (1945 to 1960) are reproducing now. The oil boom also attracted a number of young people from the North and East. Predictions for the next five years are difficult, since these projections are linked to the economy of the nation.

The proportion of infants born prematurely has remained essentially the same; however, due to the increase in live births, the total number of babies born before 37 weeks of gestation reached approximately 4,250 in

1982. Since 1970, marked progress has been made in the field of perinatology, and advanced technology has allowed the care of smaller and smaller babies with a very good survival rate. However, the medical cost of these "premies" has increased, due not only to the cost of medical instrumentation or special medical facilities, but also to the fact that the human investment in personnel is huge and inversely proportional to the size of the infant.

The American public is now well aware of the possibility of saving a premature infant, and the media have made an excellent presentation of the medical progress in this field. The public perception is so good that prematurity could appear to be a normal and completely benign phenomenon.

In the State of Oklahoma, a Children's Hospital, built by the Department of Human Services, has allowed the state to offer its citizens one of the most advanced facilities in the nation. Only three other hospitals in the state offer comprehensive neonatal intensive care.

II. The Problems Behind the Scenes

Recently, due partly to their success, the neonatal intensive care units (NICUs) of Oklahoma have had difficulty handling the rapidly

increasing demand. The lack of medical facilities for the severely ill newborn has become an issue that is worrying the medical community. A considerable number of emergency patients (18 in 1983) must be referred to neighboring states at the cost of a tremendous loss of time, transportation expense, and separation of the child from his parents. In the past few months the problem has become steadily worse.

Premature birth is responsible for most of these illnesses. Sixty-one percent of the newborns hospitalized in the neonatal intensive care unit of Oklahoma Children's Memorial Hospital weigh less than 2 kg (4 lb 6 oz) at birth. Prematurity is an unsolved problem that is still far beyond the control and skills of dedicated obstetricians and neonatologists. Eighty-five percent of all fetal deaths at Oklahoma Memorial Hospital occur before 37 weeks — these stillbirths are also "premature infants."

Prematurity is the pathologic expression of many different stresses of the maternofetal unit (Fig). Of the known contributing factors for prematurity, Oklahoma has more than its share of teenage mothers (fourth in the nation), smoking mothers, and socially and economically disadvantaged young people who moved here for jobs. In addition, as in any rural state, women who live at a distance from medical facilities may have difficulty obtaining prenatal care.

Smoking is a common habit in the mother of the hospitalized newborn. Sixty percent of

the mothers have smoked from one-half to two packs of cigarettes a day during pregnancy. Cigarette smoking is known to contribute significantly to the reduced weight of some of these babies, and to stop in utero fetal breathing movements. Perhaps it also influences the incidence of preterm birth and sudden infant death syndrome (SIDS).

The survival rate at discharge from the neonatal intensive care unit, even though markedly improved over the last decade, is not a good index of efficiency. Oklahoma Children's Memorial Hospital's neonatal intensive care unit in 1981 had a 92% survival rate in infants with greater than 1,200 grams birthweight, 50% survival with 800 to 1,199 grams, and 5% survival rate with less than 800 grams birthweight. But, the survival rate does not tell the entire story. It does not take into consideration that complications of prematurity are common. The long-range complications of prematurity are mainly due to neurological sequelae (30% to 40% of premature infants at less than 34 weeks gestation have different degrees of intracranial hemorrhage). Yet 80% to 85% of survivors are completely normal developmentally, even at the one kilogram end of the scale.

Nevertheless, a number of these children do sustain handicaps and require special attention. Programs for these children involve several different specialties of the medical profession and paramedical care including physical therapy, speech therapy, and special education. The results obtained are satisfactory, and

EPIDEMIOLOGY OF PRETERM LABOR

SOCIOECONOMIC
LOW INCOME
LOW LEVEL EDUCATION
AGE < 16 > 40
POOR NUTRITION

HABITS
HEAVY WORK
SMOKING
ANXIETY

MEDICAL HISTORY
ABORTION
PREMATURE LABOR
DES EXPOSURE
UTERINE ANOMALIES
RENAL DISEASE

CURRENT PREGNANCY
BACTERIURIA
HYPERTENSION
MULTIPLE GESTATION
HEMORRHAGE
SURGERY
SEPSIS
POLY/OLIGO-HYDRAMNIOS

PRETERM
LABOR

PREMATURE { EFFACEMENT
ENGAGEMENT
DESCENT

By permission from Creasy RK, et al: *Seminars in Perinatology* 1981, 5:269-297.

Preterm birth (continued)

more and more sick premature infants are able to achieve normal development. But these programs cost money — especially when the outcome is poor and custodial care is needed.

All of these observations indicate that we can manage many of the problems, but we intervene *after* the disaster. When we look at statistics provided by the Oklahoma State Department of Health, we see the following facts:

1975-1979 (Based on 47,000 birth certificates with prenatal information)

No prenatal care	874	} 48%
Care began 3rd trimester	3,253	
Less than 4 prenatal visits	843	
Mediocre prenatal care	18,277	
Adequate prenatal care	24,325	

We know that the rate of perinatal death among those with "little, late or no prenatal care" is five times that of the adequate care group. The state of Oklahoma even with these troublesome data, ranks honorably nationally with an overall preterm rate of 6.9%. However, some data obtained overseas in industrialized countries like Sweden, Norway, France, England, or more recently from a small number of centers in the United States, indicate that prematurity can be predicted and prevented in a large number of cases. Rates as low as 4.5% have been achieved in these countries.

Prediction of Preterm Labor; The Wise Obstetrician

Several different scoring systems have been developed; using these we are able to predict prematurity in 70% of cases. The table illustrates one of these scoring systems, derived from the original work of E. Papiernik² and adapted by R. K. Creasy³ (used with permission from the authors).

Such scoring systems are now in widespread use in the United States. They rely on socioeconomic status and reproductive performance, as well as on data from the current pregnancy. The initial screening starts as early as 12 weeks of gestation (range 8 to 16 weeks) and allows the grading of the risk for premature labor into low and high risk groups. This screening tool is, at present, only a rough predictor; it should be refined, since only 30%

of the high risk patients actually deliver prematurely. Nevertheless, risk estimation can help many patients; it should be done for every obstetric patient. Obstetric information forms have been developed to assist the physician in systematically identifying these risks.⁴

Medical Prevention of Preterm Delivery; It Can Be Done

After identification of the pregnancy that is at high risk for prematurity, a program of intervention is required. The programs dealing with this kind of patient group emphasize the following points⁵:

1. Prompt response to patients' complaints of any of the subtle preterm labor signs by arranging a pelvic examination and, if cervical changes are noted, mechanical monitoring for assessment of uterine activity.
2. Liberal and early admission of the patient for observation in the delivery room for a few hours.
3. Aggressive therapeutic intervention with effective intravenous tocolytic treatment if preterm labor is documented. In many locales this will require referral of the patient to a regional perinatal center.

Such programs require increased physician and staff awareness and a high level of patient understanding and compliance. Frequent prenatal visits (up to one visit per week in the high risk group) are indicated. A preliminary report from the University of California at San Francisco⁵ indicates that such a program of prevention provides very good results even in a disadvantaged population: A significant decrease in incidence of preterm delivery occurred (from 6.75% in the year before initiation of the program to 2.4% during the next year).

Beyond Medical Prevention: What Are the Facts?

The preliminary report from Herron et al⁵ indicates an initial success and a note of caution. "It remains to be determined whether the results can be duplicated." There are indications that these results can be achieved. Some other western countries have shown a decline in prematurity since 1975. In an excellent article, "Secrets from Sweden," Herman Hein,⁶ shows that, in fact, there is no secret but only common sense, good organization, and a firm belief

TABLE. RISK OF PREMATURE LABOR*

EDC _____
HIGH RISK Yes No

SCORE	SOCIOECONOMIC	PAST HISTORY	DAILY HABITS	CURRENT PREGNANCY
1	2 children at home Low socioeconomic status	D & C × 1 Less than 1 year last birth	Work outside home	Unusual fatigue
2	Less than 20 years More than 40 years Single Parent	D & C × 2	More than 10 cigarettes per day	Less than 12 lbs. by 32 weeks Albuminuria Hypertension Bacteriuria
3	Very low socioeconomic status Less than 5 feet Less than 100 lbs.	D & C × 3	Heavy Work Long tiring trip	Breech at 32 weeks Weight loss of 5 lbs. Head engaged Febrile illness
4	Less than 18 years	Pyelonephritis		Metrorrhagia after 12 weeks Effacement Dilatation Uterine irritability
5		Uterine anomaly Second trimester abortion DES exposure		Placenta previa Hydramnios
10		Premature delivery Repeated second trimester abortion		Twins Abdominal surgery

☐ 0-5☐ 6-9☐ 10 or more

*Score is computed by addition of the number of points given any item.

System for scoring risk of premature labor. Score 0-5 low risk;
6-9 medium risk; 9 and over high risk.By permission from Creasy RK, et al: *Seminars in Perinatology* 1981; 5:269-297.

that prevention is the way to go. The most important steps taken in medicine have been in the field of prevention. We are, at present, living in a situation analogous to a community building wooden houses with poor electrical wiring in an area where large numbers of houses burn. In order to address the problem, more and more fire stations are built and more firemen are trained. The problem will truly be resolved only by building brick homes, improving the wiring, and preventing the fires, not by extinguishing them after they have caused damage. Early life catastrophies should be more actively prevented than they are now. It is a question of choice and spirit. Where will we place our emphasis?

We physicians can communicate the problems; however, we cannot solve them alone. In Sweden, the key to success is early education of

the public in the biology of reproduction and responsible parenthood. Prenatal care is not only a phrase but a reality. Most prenatal care is provided by well-trained midwives who are closely supervised by obstetricians.

Skeptics insist that Sweden is Sweden and that comparison with the United States should not be made because of important sociocultural differences. However, many regions of the United States enjoy economic health similar or superior to Sweden, and the number of physicians soon will not be a problem. Can we answer the following questions in Oklahoma? (Most of these questions are inspired by the article of Hein.⁶)

1. Are school children provided sufficient information about the biology of reproduction, the importance of responsible parenthood, and the importance of prenatal care to pregnancy

Preterm birth (continued)

outcomes? Is there, at school, at home, or in the churches, enough demonstration that a structured stable family is the best shelter for the development of the fetus and child?

2. Is high quality prenatal care available (and used) throughout your region for every pregnant woman?

3. Have efforts been made to provide prenatal care to high risk patients, regardless of their ability to pay?

4. Do the people of Oklahoma understand that it is important that a prospective mother bear a pregnancy to term?

5. Are efforts being made to educate our population concerning the risks involved in smoking during pregnancy? Why do 60% of the mothers of premature infants smoke one-half to two packs of cigarettes a day during pregnancy?

6. Do the men and women who hold the tax revenue "purse strings" understand that it is important for the state and the nation to prevent brain damage, and that prevention is more rewarding and less costly than building more rehabilitation centers and custodial institutions in the future?

7. Should we accept "non-viable" infants in our neonatal intensive care units (ie, less than 750 grams) from which we can expect extremely poor results? Five percent survive, many with complications.)

8. Why have so many doctors quit delivering babies? Can we alleviate the legal and medical problems encouraging such decisions?

If we are not at ease with the answers to these questions, it is urgent that we respond immediately. We must intervene *before* the disaster or prematurity. Neonatal intensive care units are very useful, but they are not pleasant places for children and parents. The total cost of operating an NICU and its support services is high. The average cost per infant is \$1,200/day. However, the total cost per day of life expectancy extension is \$.61, much less

than the \$7.72 in adult intensive care. These figures were reported for the Massachusetts General Hospital in 1979.⁷

Neonatology without good prenatal care is a dead end. The support of a normal pregnancy will cost money, probably as much as the "Premature Repair Shop" — the NICU. A primary goal for Oklahoma should be a decrease in the prematurity rate to 3.5%. This would decrease long-term complications by half, would reduce stress and tears for many families, and would save the costs of special education and institutional/custodial care.

The effort necessary to reach this goal cannot rest solely on the goodwill and skills of physicians. Parents and future parents should understand that it is their responsibility, too. Educators and legislators have to realize that it is a moral and a financial issue. We cannot build the society of tomorrow while forgetting to take care of the fetus, who is, from conception onward, a citizen of the future.

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Roger E. Sheldon, MD, PO Box 26307, Oklahoma City, Oklahoma 73126.

Paul L. Toubas, MD, is associate professor of pediatrics at the University of Oklahoma College of Medicine. He was graduated from the University of Paris in 1971 and now specializes in pediatrics-neonatology. Toubas is a member of the French Perinatal Society and the Southern Perinatal Society.

Roger E. Sheldon, MD, is associate professor of pediatrics at the University of Oklahoma Health Sciences Center. The 1968 Northwestern University Medical School graduate specializes in pediatrics and neonatal-perinatal medicine. He is a member of the Southern Society for Pediatric Research.

Nutrition for the Practitioner II

Current Concepts in Nutrition: Vitamin A

STEPHEN R. NEWMARK, MD

Vitamin A, a fat-soluble vitamin, has been shown to be important for normal vision and for integrity of cellular structure. However, megadoses of vitamin A can produce toxicity states including hypercalcemia and pseudotumor cerebri.

Structure of Vitamin A

Vitamin A and related compounds are alcohols that exist in several isomeric states. The chemical configuration of vitamin A is depicted in Figure 1. Retinal is the aldehyde form of vitamin A (retinol) and is the active vitamin A in the vision process.¹

Certain chemical substances termed carotenoids are pro-vitamin A molecules. The most important of these is β -carotene, depicted in Figure 2. Beta-carotene can be converted to vitamin A by oxygenation at carbon atoms 15 and 15' with cleavage of the molecule at that position.

Dietary Source

Vitamin A is only available in animal products in which the animal has converted carotene into vitamin A. Common food sources are milk, egg yolk, cream, butter, liver, and kidney.^{2,3} The pro-vitamins (carotene) are available in yellow and green vegetables such as carrots, squash, spinach, cabbage, and dark, leafy greens.

Function

Vitamin A maintains a key role in the process of visual function. During the light reaction, rhodopsin is split into opsin and vitamin A aldehyde (retinal). Retinal may be reduced to retinol, which then must be reoxidized to retinal to recombine with opsin.¹⁻³ Vitamin A also maintains spermatogenesis by direct action on testes and facilitates conversion of cholesterol to estrogen in females.⁴ Vitamin A maintains epithelial cells by stabilization of lysosomal and mitochondrial membranes.⁴⁻⁶ Vitamin A may influence cell differentiation by affecting RNA and DNA metabolism.^{6,7} There is evidence that vitamin A protects animals against certain types of experimentally produced cancer.^{7,8} Additionally, vitamin A is necessary

Southwestern Metabolism and Diabetes Center, Saint Francis Hospital, University of Oklahoma Tulsa Medical College, Tulsa, Oklahoma 74136.

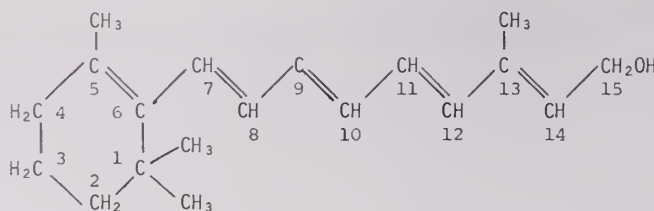


Figure 1. Trans-retinol

for optimal immune function, as studies in experimental vitamin A depletion in animals as well as clinical studies in patients have revealed decreased phagocytic and bactericidal activities.⁴

Absorption and Metabolism

Vitamin A and carotenes are fat soluble. Pre-formed vitamin A is usually esterified (retinal palmitate) and subsequently undergoes hydrolysis by pancreatic enzymes. Once absorbed, retinol is esterified inside the mucosal cell with palmitic acid, where it is incorporated into chylomicrons and is subsequently transported to the liver in conjunction with retinol-binding protein.⁴

Requirements

One retinol equivalent is equal to 1 μg of retinol or 6 μg of β -carotene.⁹ One retinol equivalent is also equal to 3.33 IU retinol or 10 IU β -carotene. The current recommended daily allowances (RDA) for vitamin A are the following: infants, 1,400-2,000 IU/day; children, 2,200-3,300 IU/day; men, 3,300 IU/day; women, 3,300 IU/day; pregnant women, 5,000 IU/day; lactating women: 6,000 IU/day.

Vitamin A Deficiency States

Hypovitaminosis A is usually associated either with inadequate dietary intake or malabsorption states.

Nightblindness is the earliest sign of vitamin A deficiency, and this may be associated with Bitot's spots which are observed as white exudates lateral to the cornea. Left untreated, xerophthalmia, or drying of conjunctiva, may occur and may then extend to the cornea. Ulceration of the cornea, or keratomalacia, may result. Subsequent infection of the globe may occur, causing permanent blindness.

Other signs of vitamin A deficiency include changes in epithelial cells manifested as dryness of the skin and follicular hyperkeratosis.

Alterations in epithelial cell integrity may also promote sinus infections, pharyngitis, pulmonary infections, and abscesses in typical locations such as the mouth, ears, and salivary glands. Decreased perception of taste and scent is frequently observed in clinical vitamin A deficiency. Increased cerebrospinal fluid (CSF) pressure can occur secondary to failure of re-absorption of cerebrospinal fluid.

Toxicity States

Vitamin A intoxication (hypervitaminosis A) is usually associated with a daily intake exceeding 25,000 IU/day. Symptoms include dry skin, alopecia, headache, somnolence, diarrhea, weight loss, anorexia, and skeletal pain. Carotene deposits may cause a yellow pigment to appear in the soles of feet, palms of hands, and nasolabial folds and may be confused with jaundice, although the sclera will be

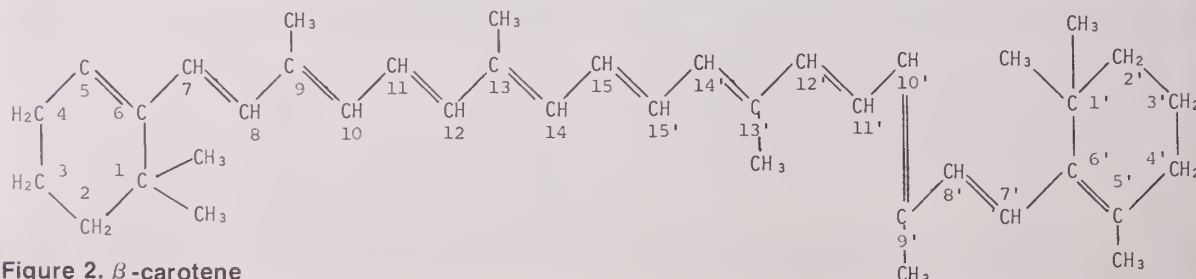


Figure 2. β -carotene

unaffected. Increased intracranial pressure may occur and produce pseudotumor cerebri. Hepatic dysfunction has been reported with excessive chronic ingestion of vitamin A. Increased resorption of bone tissue may produce hypercalcemia and hypercalciuria.

Biochemical Tests

The normal concentration of vitamin A in the adult is 30-50 $\mu\text{g}\%$. Protein-calorie malnutrition may cause failure of synthesis of retinol-binding protein, resulting in a decreased level of biochemically determined vitamin A without physiologic vitamin A deficiency.

Treatment of Hypovitaminosis A and Hypervitaminosis A

Decreased vitamin A levels can be treated by oral supplementation with vitamin A, which can be given at doses of 10,000 IU/day for ten days or until blood levels return to normal. If xerophthalmia is present, oral doses of up to 200,000 IU of vitamin A have been recommended.⁹ In cases of malabsorption, vitamin A can be administered parenterally at doses ranging from 3,300 to 10,000 IU/day. This is frequently added to total parenteral nutrition fluids as MVI concentrate or MVI-12. It is important to decrease pharmacological vitamin A treatment doses once the clinical manifestations of vitamin A deficiency have resolved.

Vitamin A intoxication can be treated by discontinuing intake of vitamin A until clinical manifestations have resolved and blood levels have returned to normal.^{9,10}

It is important to note that a new synthetic derivative of retinoic acid, 13-CIS-retinoic acid (Isotretinoin) is available for the treatment of severe acne.¹¹ Although this medication is highly efficacious for the treatment of resistant acne, close clinical observation is recommended because of associated vitamin A intoxication.

Relationship of Vitamin A to Cancer

Numerous studies have demonstrated that retinoids and other vitamin A-related compounds can reverse or suppress malignant characteris-

tics of experimentally produced neoplastic cells in animals.⁷ Other studies show that vitamin A induces a protective effect during experimental carcinogenesis in animals. These studies have not been confirmed in humans.^{7,8} However, epidemiologic data demonstrate an inverse relationship between levels of serum retinol and cancer. In addition, one study shows a relationship between low levels of vitamin A and an increased incidence of lung cancer.⁸ It must be emphasized that these data do not prove a cause-and-effect relationship since other factors associated with increased or decreased levels of vitamin A may be involved. Thus, it is premature to recommend vitamin A for the prevention or treatment of human tumors other than the general recommendation to maintain an adequate intake.

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Southwestern Metabolism and Diabetes Center, William Medical Building, 6585 South Yale, Tulsa, Oklahoma 74136.

Stephen R. Newmark, MD, is associate professor of medicine, University of Oklahoma Tulsa Medical College, specializing in endocrinology and metabolism. He was graduated from the University of Pennsylvania School of Medicine in 1969. Newmark is a Fellow of the American College of Physicians and American College of Nutrition. He holds memberships in many professional organizations, including the Endocrine Society, American Diabetes Association, and the American Institute of Nutrition.

The Gram Stain and Culture of Vaginal Secretions in Toxic Shock Syndrome

HANNA A. SAADAH, MD, FACP
ZERITA M. ANDREWS, MS, ASCP

The vaginal gram stain, when interpreted in light of the clinical picture, provides immediate diagnostic aid.

Abstract

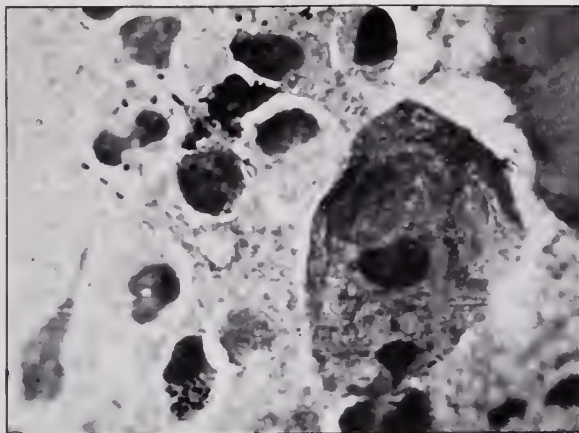
Vaginal secretions were collected daily for gram stain and culture from 19 tampon users, during the first eight days of one menstrual cycle. Gram stains were considered positive when they demonstrated a combination of both gram-positive cocci and polymorphonuclear leukocytes. A positive gram stain associated with coagulase positive staphylococci on vaginal culture occurred in 1.3% of specimens from the control group and in 100% of specimens from eight patients with toxic shock syndrome ($t < 0.001$). In the proper clinical setting, a positive gram stain associated with coagulase

positive staphylococci grown on cultures of vaginal secretions should suggest the diagnosis of toxic shock syndrome.

Introduction

Toxic shock syndrome (TSS), an acute illness that occurs predominantly in menstruating females, has been well described recently.¹⁻⁵ However, the diagnosis can only be confirmed retrospectively because certain criteria of the case definition cannot be fulfilled during the initial presentation³ — the blood cultures must be held for several days before they can be declared negative; desquamation does not occur until the second week of the illness; and serologic tests to rule out other rash-associated illnesses cannot be completed until the third week. A simple laboratory test is needed to aid the clinician in the early diagnosis of TSS. We have reported earlier⁶ that the gram stain of vaginal secretions (GSVS) is useful in diagnosing staphylococcal vaginitis, which is the initiating event in the majority of patients. This is a follow-up study of 19 volunteers who provided vaginal secretions for gram stain and culture during the first eight days of one menstrual cycle. The results, when compared with

From the Department of Internal Medicine and Infectious Disease Section, University of Oklahoma Health Sciences Center, and Mercy Health Center.



Gram stain of vaginal secretions demonstrating polymorphonuclear leukocytes, intracellular and extracellular gram positive cocci, and vaginal epithelial cells (mag 1000x).

those obtained from eight female patients with TSS, strongly suggest that, when combined with culture, the GSVS is a useful diagnostic tool.

Materials and Methods

After signing an informed consent, 19 normal females who used tampons during menstruation and were employed at Mercy Health Center in Oklahoma City, were enrolled in the study. Each volunteer agreed to report daily to the microbiology laboratory for the first eight days of one menstrual cycle.

To obtain the specimens, two cotton applicators were inserted into the vagina; then one of them was smeared on a five percent sheep blood agar plate and the other on a microscope slide. The vaginal smear was stained by the gram method and the culture was incubated at 37°C for 24 hours. Staphylococcal colonies were isolated and the conventional coagulase test performed. A total of 149 vaginal specimens were collected. The GSVS were inspected for the combination of both polymorphonuclear leukocytes (PMNL) and gram-positive cocci (GPC). After screening under low power, 20 representative oil immersion fields were searched. A smear was considered positive if one or more (of both PMNL and GPC) were present per field in five or more of the oil immersion fields. These results were compared to those obtained from eight females who developed TSS between 1975 and 1981. As reported earlier,⁶ in eight of eight (100%) patients with TSS, GSVS demonstrated both GPC and PMNL. Moreover, in two of eight, in-

tracellular GPC were noted (Fig). In the control group, 16 of 149 (10.7%) GSVS demonstrated both GPC and PMNL, but intracellular GPC were not observed in any of the smears. The cultures of vaginal secretions revealed coagulase positive staphylococci in 14 (8.7%) of the specimens from controls and in eight (100%) of the specimens from patients. The combination of a positive smear associated with coagulase positive staphylococci on culture occurred in only two of 149 (1.3%) vaginal specimens from the controls and in eight of eight (100%) vaginal specimens from the patients ($t < 0.001$ by Yate's correction of simple chi-square).

Discussion

The gram stain has been neglected in reports dealing with TSS.¹⁻⁵ We elected to study the GSVS during the first eight days of the menstrual cycle because TSS develops during these first eight days in the majority of patients.²⁻⁴ We found that, in a compatible clinical setting, GSVS demonstrating the combination of PMNL and GPC, if coupled with the presence of coagulase positive staphylococci on culture of vaginal secretions, should strongly suggest the diagnosis of TSS.

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Hanna A. Saadah, MD, FACP, 4200 West Memorial Road, Suite 705, Oklahoma City, OK 73120.

Hanna A. Saadah, MD, FACP, is a clinical associate professor of medicine in the Department of Medicine, University of Oklahoma Health Sciences Center. The 1970 graduate of the American University of Beirut Medical School specializes in internal medicine and infectious diseases.

Coauthor Zerita M. Andrews, MS, ASCP, is section head of Microbiology at Mercy Health Center in Oklahoma City. Andrews, a 1971 graduate of the University of Oklahoma Health Sciences Center specializing in medical microbiology, is a member of the American Society of Clinical Pathologists, American Society for Microbiology, and National Registry of Microbiologists.

The Emotional Separation Syndrome Among Recent Oklahoma Migrants: Description, Explanation, and Clinical Implications

HOWARD F. STEIN, PhD

*Wir brauchen keinen Hurrikan,
wir brauchen keinen Taifun,
denn was er an Schrecken tuen kann,
das können wir selber tun.*

*(We need no hurricane,
we need no typhoon,
for the horrors it can bring,
that we ourselves can do.)*

—Bertolt Brecht/Kurt Weill
Rise and Fall of the City of Mahagonny,
Act III (1930)

Introduction

This paper explores the relationship between geographical mobility, the sense of uprootedness, cultural reestablishment, symptom formation, and medical treatment among recent white immigrants to the Sun Belt and among Oklahomans who have moved from rural to urban settings (and vice versa). The report is

based upon clinical research conducted between 1978 and 1983 in three family medicine residency training sites in Oklahoma (Oklahoma City, Enid, Shawnee).

Clinically based ethnographic data from Oklahoma families and individuals suggest that unresolved developmental issues of separation-individuation in one's family of origin are far more predisposing to the sense of uprootedness and identity crisis than the mere fact of cultural difference. Case examples are used to illustrate the discovery that separation-individuation issues often underlie the estranging and uncanny experience of "being like a fish out of water"; the examples also illustrate the function of mourning in working through the differentiation process.

I further argue that the "culturally appropriate" therapy—eg, helping patients to join groups akin to those back home, recommending support or self-help networks, and prescribing antidepressant medication as primary interventions—is often in fact anti-therapeutic for the patient (or family) and serves as an unconscious strategy of the clinician to avoid the reviving in himself/herself of painful developmental separation issues. Clinical strategies that appear to be adaptive can

*This paper is based in part on a presentation made at a panel on medical anthropology at the High Plains Regional Section, Society for Applied Anthropology, 18-20 February 1983, Denver, Colorado.

be in fact antiadaptive, while genuine therapy consists of facilitating rather than inhibiting the process of grieving for what has been lost.

Migrations and relocations, expulsions and uprootings, are part of the fabric of human history. The infant upon first sensing that its caregiver is separate from its own deep cravings; the toddler cast out of specialness by the arrival of new siblings with whom imperfect love must be shared; the oedipal child who can no more completely (or seemingly so) possess the parent of the opposite sex; the adolescent who must emotionally leave home in order to found his or her new home in the succession of the generations; the middle-aged parents who must begin to let go of their offspring; the aged who must make peace with letting go of life itself — these are but a few of the developmental phase-specific prisms that refract the experience of emotional withdrawals, real separations, and unpreparedness for losses of the life cycle. These inner "prisms" not only influence how physical separation will be experienced, but may likewise affect the choice to emigrate and relocate. Migration can serve as a powerful external referent for the reactivation of unfinished emotional business.

While oil rigs and antlike oil pumps have dotted the land for several decades, it is only within half a decade that Oklahoma, like the remainder of the mythically defined Sun Belt, has been discovered or invented as the Land of Opportunity. State and region serve as something of an island within America, a land of

Genuine therapy consists of facilitating the process of grieving for what has been lost.

unbridled expectation (and therefore vulnerability to rapid disillusionment), one which will reverse all setbacks and losses of one's past life. With both the immense wheat crop and the oil industry tied to the vagaries of the national and international economy, riches and rags fluctuate widely and wildly. Soaring hope and plummeting despair intertwine the economic and the emotional in more than simple cause-and-effect relationship.

Unfinished developmental business from the families, occupations, and regions of origin influences how Sun Belt economics is perceived and therefore experienced. One must carefully discern those meanings the internal migrant brings and imposes upon the new land. One must painstakingly inquire about what the migrant is leaving behind, if not fleeing, and what the migrant is seeking or expecting to find. Possession of a job may represent the autonomy one has not yet inwardly achieved, and serve as a bulwark of self-reliance. Unemployment may abruptly disarm the defenses of individualism by thrusting the individual back upon old, unresolved dependency issues. One's sense of identity often encompasses a sense of place — where one "belongs," to whom and to what one is "linked." The boundaries of the self are defined by a psychogeography of place. Uprooted from these, the land of opportunity — fulfilled and failed alike — becomes the land of unfinished mourning.

The Clinical Setting

Patients in this group of newly relocated persons often present with a wide variety of initial complaints: anxiety, depression, marital discord, somatic complaints, and delinquent behavior among children, to name but the most common. Likewise, women ranging from their late teens upward, who are recent arrivals, will come to the Family Medicine Clinic for their prenatal care. Relocation is as much on their mind as the pregnancy itself. Early in treatment these patients (recent arrivals, both male and female) will begin describing themselves and their life situation with terms and themes that become recurrent if not redundant intraindividually and interindividually: "misplaced persons," "displaced persons," "isolated," "stranded," "like a fish out of water," and "alone." Directly or subtly, they ask their physician(s) to help them find a place and network of relationships to call "home," often adopting their family doctor, clinic, and medical center as a person and place to visit, and experiencing the outing itself as a social occasion. In a phrase, the immigrant's quest, often with medical complicity, is to reestablish the broken/severed tie with the original object and symbolic object world.

While *physical* separation often acutely precipitates the onset of symptoms and the search for health care, the experience of

Separation syndrome (continued)

emotional separation is a frequently unrecognized chronic underlying factor. Just as Lesse¹ has argued that chronic functional somatic disturbances successfully mask depression, likewise I suggest that a preoccupation by physician and patient alike with external conditions of migration, settlement, occupation, and support networks can mask separation difficulties.

One must painstakingly inquire about what the migrant is leaving behind.

By investing one's "whoness" with "whereness," and deriving one's sense of identity from a sense of place, one's new identity, like the old, becomes virtually context dependent.

Context-loss is experienced as though it were object-loss. One aborts the process of grieving for the old by frantically trying to replace it with the new. Like the familiar "replacement child," the *replacement symbolic world* preserves the original ambivalent tie in the present. The loss of context is experienced as a deprivation to be overcome by maintaining ties with the old and familiar, and by recapitulating a familial environment out of the material of the strange.

Patients coming to the Family Medicine Clinic with symptoms and sequelae related to migration, separation, and loss tend to receive from their physicians a matrix of what might be called "culturally appropriate" or "culturally expectable" treatment. This includes some combination of the following modalities: (1) supportive counseling; (2) antidepressive medication therapy, often in combination with antianxiety medication; (3) medication specific to functional organ disturbances; (4) consultation with or referral to a wide spectrum of community social agencies, self-help groups, voluntary associations (churches, fraternal lodges, etc); (5) counseling strategies to help the patient to develop a personal "support system" in the host community; and (6) return visits to reassess psychosomatic-family-social-occupational status and the effectiveness of medication regimens.

As the two case studies that follow sug-

gest, this cultural therapy failed to address the ambivalence that these patients held toward the old and the new alike, expressed in the very urgency of getting one's "support system" in order. "Support," etc, came to be seen not so much as the solution but as a patching up of old hurts by new idealizations that only postponed the feelings of emotional separateness. Therapeutically, clinicians appear overeager to "prescribe" reattachments for the distress of separation and loss, rather than explore with their patients the inner representations of their attachments (intrapsychic and interpersonal) that has led to the yearning for a sense of community. During the course of therapy, the surfacing of aggression toward the objects of one's devotion — past and present — provided the initial and sustained cue that all was not well with this cultural therapy. It was at this point that I came to realize that resocialization and social control — universal components of therapy — were not the solution but a defense against grief and therefore a new problem superimposed on the original. Two case studies illustrate the process of discovery and therapy.

Case One

Amanda Mooring is a 26-year-old married white female with an 18-month-old male child. She came to the Family Medicine Clinic on her first visit complaining of depression of approximately 2-years' duration. She complained of frequent crying spells, loss of appetite for regular meals, a desire for binge eating of sweets, difficulty in sleeping, and loss of interest in sexual intercourse. Physically she was an obese white female (221 lb, 5'4") who was neatly dressed in jeans and a cotton blouse. She sat with her shoulders slumped and when the family physician asked what he could do for her she began to cry. She cried through most of her subsequent interview.

Amanda dated the onset of her illness to approximately two years previously when she moved from a large city to a small town in Oklahoma following her marriage. Although she had previously had several friends, after her move she felt "stranded" in a town without friends in either her neighborhood or her new place of employment. At the time of her clinic visit, she was adjusting to another move to a new town after her husband's transfer in his job. She had been living in the second new town for eight months. Despite her hopes for relief, she had still found no outside friends. She had become more depressed when she was unable to significantly change her life style.

Some of Amanda's early crying episodes during conversations at the clinic occurred as she related situations that had made her feel angry. She resented some of the burden of her household obligations that she wished her husband would share with

her. Over a period of six months, however, Amanda made remarkable progress by using a combination of medication that better regulated her sleep, and by consultation. The clinic personnel who were consulting with her attempted to improve Amanda's self-confidence, esteem and sense of self-worth. Over time she was crying less frequently than before, and was beginning to draw boundaries in coping with her family. She became more firm in delegating certain chores to her husband, yet was more accepting of the fact that he was "not perfect." The couple seemed to communicate better with each other over time. She stated that she would be glad to have her mother-in-law come to their home for a visit, but would not permit herself to be bothered by the older woman's eccentricities. Amanda sought the advice of her parents regarding the purchase of a car, but was able to consider an option different from the ones her parents had proposed.

On her own initiative, Amanda became a member of Overeaters Anonymous in the town in which she now lived. She began to be satisfied that she was building adequate friendships from this group. She also managed a paper route by herself, thereby providing more income for the family. In her last consultation at the clinic, she no longer complained of depression and actually expressed a feeling of confidence in herself. Her husband had also told her that he noticed she was "coping" much better and was no longer "losing control and crying all the time." She reported that her acquaintances from Overeaters Anonymous now called her on the phone about organizational matters as well as "things that friends would talk about." She seemed quite pleased with her progress.

Comment

A very giving, generous person who feared the expression of anger would lead to the alienation of affection and thereby the loss of her protective social cocoon, Amanda first came to resent others for depriving her of the self she could not have. In her discovery and "owning" of her anger toward them, she began to feel that she possessed and had a right to possess a distinct self that would not be destroyed by others' anger. For her, harmony, consensus, and being the "good wife" had all been maneuvers to deny and undo the aggression which would bring harm to them and thereby incur their wrath and in turn make her *feel* separate from others. Aggression became a force of differentiation, leading to a period of grieving for her lost erstwhile "perfection" and an openness to new types of relationships. Her sense of isolation needed no longer to be overcome by filling it with friends — and food. Only at the end of treatment did she seriously begin dieting, as she no longer needed to over-feed herself for what others might withhold or deprive her of in love.

Case Two

Chuck Jones is a 25-year-old white male who was originally seen at the Family Medicine Clinic for complaints of restlessness, insomnia, and low back pain of three weeks' duration. The initial physical examination by the family physician revealed a mildly obese, anxious-appearing white male whose general examination was within normal limits. He was treated with a prescription of Librium and was not seen for these same complaints until approximately three months later. However, during this interim, he refilled four prescriptions for Librium without being seen in the Clinic. He was advised that he would need to be seen at the Clinic before medication would be refilled again.

During his second visit, the patient complained of feeling very agitated and uptight. He reported no problems at home, and seemed most agitated by his job as a traveling salesman, though he had no desire to quit his job and stated that he enjoyed it. During his discussion with the family physician the patient was sweating profusely from his forehead, constantly readjusting his tie, and consistently shaking his legs, occasionally kicking the examination table. The clinician talked at length about the need to find other avenues aside from medication to relax and control his anxiety. After agreeing to go one week without medication, the patient returned in two days for follow-up on his anxiety and nervousness, asking for something to steady his nerves. An attempt was made to use Vistaril to control his anxiety since it has less abuse potential, and arrangements were made for him to enter a biofeedback and relaxation program at the local hospital.

Four days later, the patient returned to the clinic for a follow-up visit. He reported that the biofeedback was helpful, but that the Vistaril was ineffectual. He related past episodes in which he had experienced derealization and depersonalization (ie, appearing as an outsider looking at himself), and expressed fear that without the aid of Valium or Librium these feelings would return. Yet, he expressed fear that he would become dependent upon

Unemployment may abruptly disarm the defenses of individualism.

medications and desired psychological help. It was at this point that the clinic consultant was asked to join the physician in seeing this patient for psycho-social consultation.

His history revealed that he was from Chicago, Illinois, and had moved to Oklahoma approximately one year prior to that time. He was the second of five siblings and was the eldest son. Since he was the first male child, he felt as if his father regarded him as "a model son who would follow in his father's footsteps and also become an electrical supply

Separation syndrome (continued)

salesman like his father." He was expected to be his father's model for the other siblings.

The patient seemed very disturbed by guilt feelings about drug use such as acid, psilocybin, and marijuana, primarily during the time that he was in high school. He felt that he had let his father down, and raised the spectre of losing his father's love, by "experimenting with drugs in the past." His eyes became tearful as he discussed his feelings of guilt. He seemed obsessed with control of his feelings. Yet, the more he tried to control himself, the more he became frightened of his feelings, and the more he feared losing control. An obsessional, any threat of experiencing anger heightened his anxiety.

It became apparent that the patient and his wife came to Oklahoma to start a life of their own without the added pressures of strong family expectations and "domineering" fathers. However, moving from Chicago to Oklahoma had presented a cultural shock to both of them. They had difficulty making friends in their new home town. They never felt completely comfortable with fellow employees, neighbors, or church members. The patient's father was a national figure among electrical suppliers, a reputation which accompanied the son to Oklahoma. Coming to the Sun Belt to advance on his merits, the patient found himself constantly greeted and complimented as "Jones' son," which made him feel even more entrapped as "daddy's boy" — a term he used with derision.

When the patient and his wife turned their feelings back to their homes of origin, their unresolved sense of ambiguity was reignited as in the patient's experience of love and resentment toward his father and his early experience with drug dependency. As the couple attempted to make Oklahoma their own home, and the wife became pregnant with their first child, the patient had difficulty "maintaining control" over his feelings about drug need and abuse, his father, and the fact that they felt like "misplaced persons" in a small Oklahoma town. He "kicked himself" for allowing his father to persuade them to

his father increased. As he allowed himself to clarify these feelings he was also better able to differentiate his need to please his father from his need to be free of comparison with his father.

The couple last visited the Clinic prior to a move to another state. The patient had accepted a new job helping two other associates open their own electrical supply company. He felt that this step was based on his own merits and achievements and had been gained through his own hard work. While his father declared this to be "anarchy," and Chuck feared how he might try to undermine the venture, he proceeded with his plans. The couple felt much less "misplaced" in their chosen home, and tended to feel more "misplaced" in their homes of origin. They expressed confidence in their ability to build their own business and family for the future without fears of loss of control or drug dependency.

Comment

For the patient, "drugs" had marked his first break with his father, for which rebellious wish he subsequently atoned and against which atoning he rebelled. Able consciously only to love — and obey — his father, he was able to learn that he also hated him, and that the hate neither murdered himself nor his father. The more he was able to achieve a differentiation from the father image, and gradually to accept the ambivalence of Oedipal sonhood, the more he was able to take leave of those symbolic objects that had expressed and confirmed his inner status as "misplaced person." Treatment avoided the temptations of "occupation counseling" or advising on "how to choose a home," and explored with Chuck the meanings of work, home, etc, so that, less driven by unconscious conflict, he could more freely choose his future.

In certain features, these two cases could not be more divergent. The man is clearly an obsessional character organization, while the woman is a depressive. The man's migration was from a leading North American metropolis to a midwestern city which retains many rural features; the woman, on the other hand, moved from a midwestern city to a small, provincial town. Yet the intrapsychic function of both their symptom-complexes was identical: to preserve a tie with the past, to deny and reverse the losses that had taken place, to set up outside the self a cultural world of "linking objects"^{2,3} that would shore up the inner denial, repression, and splitting system. The course of therapy for both helped them to examine what was represented in the "cultural" material, to examine the ties and effects that underlay

Migration undermines those collective certainties to which we adhere.

purchase a small, dilapidated house in need of much repair (which the patient engaged in single-handedly) over a larger, newer house they had preferred. The patient proceeded to explore how he was able to succumb repeatedly to his father's intimidations, and became angry both with himself and his father for having done so.

With some difficulty, the patient's idealization of his father began to diminish as his anger toward

their "transference" to these symbolic objects, and finally to *loosen* (the exact opposite of cultural "support" and "replacement" therapy) those symbolic ties and internal representations that had kept them in emotional bondage.^{4,5}

The Cultural Setting

There is considerable cultural legitimacy in short-circuiting the painful work of mourning and the emotional separation to which it leads. One thinks, for instance, of the popularity of the television serials "The Waltons" and "Little House on the Prairie," both of which celebrate the putative togetherness, warmth, and harmony of bygone days. Yet the two case studies discussed above illustrate that the achievement of emotional separation among two "internal migrants" was facilitated by their acknowledgment of previously disavowed anger toward current and past persons from whom they had previously split off all hostility and which split had led to the search for a perfection in new environments.

For many — even for whole groups — culture is a bulwark of the inability to mourn, and thereby to achieve emotional separation. We distract ourselves by fashioning symbolic containers for that anxiety, by affixing wished-for time in space. Since culture is used to represent and to replay the vicissitudes of early object relations, any threat of "culture loss" is experienced as renewed separation and object-loss. Since one of the principal, if not the dominant, purposes of culture is to rectify (make restitution for) the vulnerabilities and pains of childhood, to be deprived of one's culture through migration or otherwise is to be exposed to those ineffable dangers all over again. Just as uncompleted mourning places a "seal over"³ the underlying pathology, likewise does culture often place yet another seal over the process of mourning, and the painful emotional separation that it awakens.⁶

Conclusions

Migration undermines those fragile, private,

and collective certainties about the human condition to which we adhere. It is for many a crisis that precipitates an ardent quest to reaffirm old inner representations in new contexts. Therapy worthy of the name does not collude with the patient's wish to fashion new lies for old, but assists him/her in the conscious acceptance of a reality that already must have intimated itself to him/her.

Let there be no mistake about it: in therapy, too, one undertakes yet another migration. In the painful odyssey of therapy, the therapist lends his allegiance to help the patient to understand those allegiances of his own. The very premise of authentic therapy is cure through the uncovering of the past. Viewed in terms of the latter, migration becomes more a matter of opened alternatives, and less a matter of compulsive reenactment of the past.

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University of Oklahoma Health Sciences Center, Department of Family Medicine, PO Box 26901, Oklahoma City, Oklahoma 73190.

Howard Finn Stein, PhD, is an associate professor in the Department of Family Medicine, University of Oklahoma Health Sciences Center, and a faculty consultant at the Enid and Shawnee Family Medicine clinics. Specializing in psychoanalytic anthropology, he earned his PhD at the University of Pittsburgh in 1972. He is active in several professional organizations including the Society for Medical Anthropology and the Society for Psychological Anthropology.



News from the Oklahoma State Department of Health

Penicillinase-producing *Neisseria gonorrhoeae* (PPNG) has been a significant problem in other parts of the United States while remaining relatively insignificant in Oklahoma. Oklahoma reported 32 cases of PPNG from the beginning of surveillance in 1979 through the end of the calendar year 1983. Five additional cases were reported during the months of January and February 1984.

The Venereal Disease Control Division (VDCD) of the Oklahoma State Department of Health maintains a staff of field representatives who are actively involved in epidemiologic activities, including the intensive and rapid follow-up of patients with PPNG. These efforts have helped keep the PPNG cases in Oklahoma to a minimum.

Follow-up activities include interviewing patients about their sexual contacts and referring these contacts for examination and treatment within 48 hours. A private physician can obtain this service by calling the VDCD at (405) 271-4061. The excellent record established in Oklahoma can be maintained only by the continued close working relationship between private medicine and public health agencies.

The following recommendations are intended to reduce the potential for spread of PPNG and reduce

the likelihood of further occurrences of spectinomycin-resistant strains of gonorrhea:

- A. Culture all patients with symptoms suggestive of gonorrhea or patients stating that they are contacts to gonorrhea.
- B. Emphasize to all patients the importance of returning for a test-of-cure culture, should initial tests for gonorrhea prove positive.
- C. Counsel gonorrhea patients about the need to return to the clinic sooner than the test-of-cure date if their symptoms do not respond to therapy.
- D. It is recommended that physicians restrict their use of spectinomycin to two groups of patients:
 1. Those infected with penicillinase-producing organisms and their recent sexual partners, and
 2. Those individuals with a positive test-of-cure culture after initial treatment with recommended doses of penicillin, ampicillin, or tetracycline.

Absolute resistance of the gonococci to spectinomycin has been documented and injudicious use of this drug could ultimately result in increasing prevalence of spectinomycin-resistant organisms. □

DISEASE	February 1984	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	0	0	0	2
CAMPYLOBACTER INFECTIONS	9	20	11	—
ENCEPHALITIS, INFECTIOUS	0	0	3	3
GIARDIA INFECTIONS	17	25	17	—
GONORRHEA (Use ODH Form 228)	1122	2189	2622	3259
HAEMOPHILUS INFLUENZAE				
INVASIVE DISEASE	30	40	24	—
HEPATITIS A	41	71	63	52
HEPATITIS B	20	35	32	28
HEPATITIS, NON-A NON-B	1	3	6	—
HEPATITIS UNSPECIFIED	12	17	36	29
MEASLES (RUBEOLA)	0	0	0	2
MENINGITIS, ASEPTIC	4	5	15	9
MENINGITIS, BACTERIAL				
(non-meningococcal, non H. Influenzae)	3	4	13	14
MENINGOCOCCAL INFECTIONS	7	9	8	6
PERTUSSIS	6	7	5	3
RABIES (Animal)	7	12	18	22
ROCKY MOUNTAIN				
SPOTTED FEVER	0	0	0	0
RUBELLA	0	0	0	0
SALMONELLA INFECTIONS	29	42	78	40
SHIGELLA INFECTIONS	16	24	12	30
SYPHILIS (Use ODH Form 228)	19	30	46	33
TETANUS	0	0	0	0
TUBERCULOSIS	15	27	43	54
TULAREMIA	1	1	0	0
TYPHOID FEVER	0	0	0	0

Diseases of Low Frequency	Total to Date This Year
ACQUIRED IMMUNE DEFICIENCY SYNDROME	1
BRUCELLOSIS	0
LEGIONNAIRES' DISEASE	2
MALARIA	1
REYE SYNDROME	7
TOXIC SHOCK SYNDROME	1

Donor cards, laws fail to increase supply of organs

Organ donor cards are not an effective means of substantially increasing the supply of organs for transplantation, according to a study in the *Journal of the American Medical Association (JAMA)*.

J. B. Eskridge of OKC assumes state association presidency

James B. Eskridge III, MD, of Oklahoma City, was installed early this month as the new president of the Oklahoma State Medical Association. He succeeds George H. Kamp, MD, of Tulsa, who served as the 1983-1984 president.



Dr Eskridge, a native of Oklahoma City, received his medical degree from the University of Oklahoma School of Medicine in 1945 and completed his residency in obstetrics and gynecology at Oklahoma University Hospital.

He served in the US Army from 1946 to 1948, attaining the rank of captain.

Dr Eskridge is a past president of the Oklahoma County Medical Society and a former chairman of the OSMA Board of Trustees. He served as OSMA vice-president in 1982-83 and was the OSMA president-elect in 1983-84. □

Thomas D. Overcast, JD, PhD, and colleagues from Seattle's Battelle Human Affairs Research Centers surveyed all 50 states and the District of Columbia to determine the effectiveness of organ donor cards. Among the findings: in 47 states, surgeons still require family approval for organ removal, despite the presence of a signed donor card and approval in law; 44 states have provision on drivers' licenses for organ donation, but none *require* drivers to indicate whether or not they wish to donate organs in the event of death; few actual organ donors in any surveyed state were carrying donor cards at the time of death.

(In Oklahoma, House Bill 1278 was signed into law by Governor George Nigh on June 2, 1983, and became effective January 1, 1984. It provides for a donor consent on the state driver's license which, when signed and witnessed, becomes the only legal consent needed by physicians for organ removal.)

Renewed interest in transplantation (and organ donor supply) has resulted from the introduction of cyclosporin A, a new immunosuppressive drug that has dramatically decreased problems associated with organ rejection.

Public attention in the past year has focused on the need for liver transplant donors, particularly for children, Overcast and colleagues point out. "On any given day it is estimated that 70 or more children are awaiting liver transplants at the University of Pittsburgh — the largest transplant program in the United States," they say. □

Cardiologists in Tulsa say combined treatment works

Immediate percutaneous transluminal coronary angioplasty (PTCA) following streptokinase thrombolysis is feasible, can be done safely, and results in a higher vessel patency rate, according to a group of Tulsa cardiologists.

John Kalbfleisch, MD, FACC, and associates presented these results of their study at the 33rd Annual Scientific Session of the American College of Cardiology, March 25-29, in Dallas.

After performing the state's first angioplasty and streptokinase procedures in 1981, it became apparent to the cardiologists that patients with myocardial infarctions might benefit from a combination of the two techniques, since treatment with streptokinase alone seemed to have a high reocclusion rate. Often reocclusion would occur at the time the streptokinase procedure was done and as a result many cardiologists had begun doing coronary angioplasty immediately after a successful streptokinase procedure. Kalbfleisch and associates designed their study to evaluate the efficacy of this combined procedure. □

Tulsa MD becomes head of emergency medical center

Douglas R. Moore, MD, has been named full-time director of the Tulsa Emergency Medical Center (TEMC). Moore's appointment to the new position is made by Emergency Care Inc.

Moore has practiced medicine at the Saint Francis Trauma Emergency Center for seven years and has been on the Tulsa Emergency Medical Center staff since its inception in 1978. Emergency Care Inc. staffs both Saint Francis Trauma Emergency Center and Tulsa Emergency Medical Center.

"Our growing patient base and subsequent staffing increases have made it necessary to provide a full-time, on-site director," said Moore.

A native of Tulsa, Moore received his BA, MS, and MD from the University of Arkansas School of Medicine. He is a member of the Oklahoma State Medical Association, American College of Emergency Physicians, and the American Occupational Medical Association.

Pregnant women help babies by smoking fewer cigarettes

Pregnant women who participate in anti-smoking programs can cut their cigarette consumption in half and ultimately bear babies who are significantly heavier and longer than the babies of prospective mothers who don't change smoking habits.

Mary Sexton, PhD, MPH, and J. Richard Hebel, PhD, of the University of Maryland School of Medicine, in a recent *Journal of the American Medical Association (JAMA)*, report that women who smoked six cigarettes per day bore children who were 92 grams heavier than the babies of mothers who smoked 13 cigarettes each day. The heavier babies were also 0.6 cm longer than their lighter counterparts. The study of 935 pregnant women represents the first prospective evaluation of smoking and pregnancy, the researchers say.

"The major findings from our study are that antismoking intervention is feasible to conduct, accepted by pregnant women, and effective in producing a reduction in smoking, and, most important of all, that cessation even during pregnancy improves the birth weight of the baby," say the researchers.

"Surely this article in context with the remaining literature on the subject, leads even the most careful scientist to conclude that smoking while pregnant is unhealthy and its cessation or substantial reduction is a valuable strategy to improve the quality of human reproduction," comments Richard H. Aubry, MD, in an accompanying editorial.

Aubry notes that the study showed that a reduction in cigarette smoking corresponds to a 25% reduction in the rate of frequency of babies born weighing less than 2,500 grams. The Syracuse, NY, researcher suggests that physicians should respond to the study's findings by employing "meaningful antismoking" efforts in their everyday medical care practice. □

TEMC offers care for a wide range of illness and injury, as well as occupational health services for local industry. Among those services are pre-employment examinations, work-related injuries, and testing at industrial sites, according to Moore. □

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Diving reflex, cold water save accident victims

In late January a four-year-old boy was pulled from the icy waters of Lake Michigan after being submerged for almost 30 minutes. He was revived and several months later appears to be making a full recovery.

According to an article in the April issue of *Annals of Emergency Medicine*, the monthly journal of the American College of Emergency Physicians (ACEP), persons submerged in cold

water may indeed go for as long as 30 minutes without breathing and still recover with no brain damage.

"The body has a diving reflex that protects the brain and heart when the body is suddenly plunged under water," reports Thomas G. Martin, MD, author of the article. "In addition, cold temperatures slow the metabolism of the brain and lessen the need for oxygen. Survival from prolonged cold water immersion has occurred most frequently in infants and children. One explanation is the diving reflex is thought to be stronger in children."

The article states that hypothermic patients may appear dead when they are pulled from the water, yet might still be saved. A recent study showed that 19% of near-drowned patients who appeared lifeless upon admission to the emergency department recovered completely.

According to Dr Martin, aggressive treatment both at the scene and in the hospital is recommended, even in those who initially appear dead. □

Fair summer winds to fill sails for Heart Fund race

June 2 is the date set for this year's annual Heart Fund Regatta on Oologah and Grand lakes.

The event was begun nine years ago as the first ongoing charity sailing regatta, and it has since become a model for several other Heart Fund regattas across the nation.

The regatta is supported by corporations and individuals who contribute \$500 to sponsor a boat on Grand Lake and \$100 for a boat on Oologah. The sponsors are entitled to select two crew members from their families or business firms to be aboard the boats during the race. The sponsors can travel aboard the boats for fun or can serve as active crew members. In addition, all crew members attend the Awards Dinner with the boat owners.

A small regatta, open only to 14½-foot cat boats, is also being planned. It will be held May 26 on Zink Lake at Riverparks in Tulsa. Sponsorships will be \$100.

A fourth race is scheduled June 1 on Oklahoma City's Lake Hefner.

Last year more than 70 boats sailed from Arrowhead Yacht Club on Grand Lake, and 60 competed on Oologah. Any cruising class keel boat 21 feet and up is eligible, and entries are now being accepted. For information call the American Heart Association, Tulsa Chapter, (918) 747-8254. □

ACP issues guidelines on new endocardial procedure

Endocardial electrical stimulation has been evaluated for safety, efficacy, and cost by the Clinical Efficacy Assessment Project (CEAP) of the American College of Physicians.

Endocardial electrical stimulation (EES) is a diagnostic procedure that provides information about the heart's electrical conduction system. Electrode catheters are placed in the heart and electrical activity then is measured at each insertion site. In addition to detecting arrhythmias, the procedure permits evaluation of the sinus node and of conduction between the chambers of the heart.

According to the College, EES is the state-of-the-art method for evaluating and guiding therapy of selected complex arrhythmias. However, the recommendation points out that the procedure entails significant risk, expense, and psychological strain to the patient. It should be performed in institutions in which emergency cardiovascular back-up is available and only by those with specialized clinical electrophysiologic training, the College concludes. □

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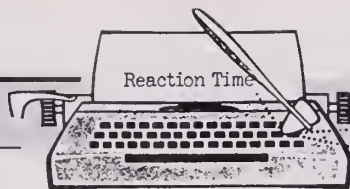
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Lay advisor plan draws fire . . .

To the Editor: I read with interest your editorial in OSMA JOURNAL entitled "Political Action — Brown Bags or Grass Roots" [February 1984].

It is very rare that I find myself at odds with your philosophy. When I do, I attempt to re-examine my thinking since I do have such great respect for your philosophies and integrities.

I must however take issue with your suggestions of inviting lay people into our medical organizations. Although well meaning, historically it has not been to our advantage or to our patients' advantage.

It comes to mind, various organizations have either met their demise or have been taken over by the lay people. We have tried to

share our responsibilities and show our good heartedness in inviting these people to take an active part. Among these organizations are the Blue Cross/Blue Shield, PSRO and HSA's. We cannot point with pride to the results of these takeovers.

It is my opinion therefore that to invite lay advisors into our medical organization would meet with disaster, maybe not in yours or my lifetime, but in the lifetime of those to follow.

We have tried to let the passengers "fly the airplane" in many instances only to find either a crash or a controlled crash. I MUST TAKE ISSUE!!!

*M. Joe Crosthwait, MD
Midwest City, Oklahoma*

. . . But letter of regret applauded

To the Editor: Since I criticized your last editorial, I must hasten to add my "Amen" to your editorial in the March Oklahoma State Medical Association JOURNAL.

In my opinion, you're right on target.

If those of us who have been doing the labors of medicine for so many years would write similar letters taking similar postures it may very well have some positive effect.

Again, keep up the good work.

*M. Joe Crosthwait, MD
Midwest City, Oklahoma*

To the Editor: I read with wholehearted approval your letter of regret published in the March, 1984, JOURNAL of the State Medical Association. I feel that we as physicians, especially those of us in Tulsa who have more or less fallen prey to this new type of medical economics, have really missed the boat concerning economics and patient care. Your letter is succinct and to the point. Certainly, it expresses the opinions and fears of the majority of physicians in the state of Oklahoma (I hope). I only wish that we as the State Medical Association had the guts to take this attitude and stand pat on it in our dealings and relationships with third-party providers.

Once again, I am thoroughly appreciative of the letter. I think it really summarizes the plight of medicine in 1984.

*Lee E. Schoeffler, MD, FACS
Past President
Oklahoma State Society of Ophthalmologists
Tulsa, Oklahoma*

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Deaths

ROBERT WAYNE LOWREY, MD
1911 - 1984

Robert W. Lowry, MD, a lifelong resident of Poteau, died at his home in Poteau February 27. He was graduated from the University of Oklahoma School of Medicine in 1936 and established a general practice in Poteau a few years later. A member of the American Academy of Family Practice, he was awarded a Life Membership in the Oklahoma State Medical Association in 1976.

KEMPER COLLEY LAIN, MD
1940 - 1984

Oklahoma native Kemper C. Lain, MD, of Tulsa, died March 8 in Tulsa. He was a 1966 graduate of the University of Oklahoma College of Medicine and established his practice in cardiovascular and thoracic surgery in Tulsa in 1974. Lain was a member of the American College of Surgeons, Society of Thoracic Surgeons, American College of Chest Physicians, and a Fellow of the American College of Cardiology.

In Memoriam

1983

<i>George M. Adams, MD</i>	<i>May 3</i>
<i>John R. Reid, Jr, MD</i>	<i>June 14</i>
<i>Gilbert E. Haslam, Jr, MD</i>	<i>June 15</i>
<i>Thomas A. Trow, MD</i>	<i>June 23</i>
<i>Richard D. Mullett, MD</i>	<i>June 28</i>
<i>Aaron C. Little, MD</i>	<i>July 1</i>
<i>Michael C. Manning, MD</i>	<i>July 3</i>
<i>Hillard E. Denyer, MD</i>	<i>August 8</i>
<i>Edward A. Allgood, MD</i>	<i>August 18</i>
<i>Hugh E. Wilson III, MD</i>	<i>August 27</i>
<i>Harold J. Black, MD</i>	<i>September 1</i>
<i>Marque O. Nelson, MD</i>	<i>December 24</i>
<i>Park H. Medearis, MD</i>	<i>December 26</i>
<i>Charles S. Beaty, MD</i>	<i>December 28</i>

1984

<i>Jack H. Foertsch, MD</i>	<i>January 19</i>
<i>Thomas L. Ozment, MD</i>	<i>February 11</i>
<i>Thomas L. Foster, MD</i>	<i>February 25</i>
<i>Robert W. Lowrey, MD</i>	<i>February 27</i>
<i>Ella Mary George, MD</i>	<i>March 1</i>
<i>Kemper C. Lain, MD</i>	<i>March 8</i>
<i>William R. Cheatwood, MD</i>	<i>March 12</i>
<i>William A. Dean, MD</i>	<i>March 19</i>

WILLIAM RANDOLPH CHEATWOOD, MD
1908 - 1984

William R. Cheatwood, MD, died in Oklahoma City March 12. He had been a general practitioner in Duncan since 1947, retiring in 1974. He earned his medical degree from the University of Oklahoma School of Medicine in 1937, and was a captain in the Army Medical Corps during World War II. He was a member of the American Academy of General Practice and a Fellow of the Academy-International of Medicine. The Oklahoma State Medical Association made him a Life Member in 1977.

WILLIAM A. DEAN, MD
1888 - 1984

Longtime Tulsa obstetrician William A. Dean, MD, died March 19 in Tulsa. Born in Rome, Ga, he earned his medical degree at Emory University School of Medicine in Atlanta in 1917 and moved to Tulsa in 1919. He was a first lieutenant in the Army Medical Corps in France during World War I. Dean was named "Doctor of the Year" in Tulsa in 1962 and in 1967 was saluted by the Emory medical school for 50 years of service. In 1970 he was awarded a Life Membership in the Oklahoma State Medical Association.

Book Review

Rehabilitation in Chronic Renal Failure.

By Samuel B. Chyatte, MD. Baltimore: The Williams and Wilkins Company, 1979. Pp 152. Price not given.

The first third of this succinct nine-chapter volume reviews the causes, diagnostic criteria, and variable course of chronic renal failure. The factors responsible for clinical findings are discussed, and the technical backgrounds of dialysis therapy and renal transplantation are clearly explained. The advantages and disadvantages of both dialysis and transplantation are well presented. Unfortunately, as with other technology-based endeavors, the volume is contemporaneously incomplete, omitting discussion of the fastest growing modality for maintenance dialysis care, continuous ambulatory peritoneal dialysis (CAPD).

In the remainder of the book the editor, himself a patient with chronic renal failure, stresses the team concept as an essential ingredient in the successful rehabilitation of patients with chronic renal failure. The varying needs of patients with different degrees of renal insufficiency are discussed and specific suggestions for objectively assessing the rehabilitation effort are reviewed. The psycho-social stresses of dialysis and the processes facilitating and inhibiting adaptation to these stresses are discussed from the viewpoints of the physician and the social work counselor. A relatively extensive chapter is devoted to the background of vocational rehabilitation legislation, the disincentives faced by the patient with chronic renal failure who wishes to work, and the factors that should be considered in planning placement. The medical, technical, and psycho-social aspects peculiar to children and adolescents with life-threatening renal failure are treated separately, as is a lucid explanation of the background for dietary modification in the care of patients with chronic renal failure.

In summary, this book succeeds in compiling basic information, easily readable and minimally redundant, that is useful to all professionals caring for patients with renal failure. It will be particularly useful to individuals newly engaged in providing service to patients with chronic renal failure, helping them understand not only the problems faced by the

patients, but also the role of other professionals, whether they are grouped specifically to provide these services as a team or are seen in referral.

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References:

1. Stone PH, Turi ZG, Muller JE. Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al. Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY

PROCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. **Vasospastic Angina:** PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Classical Effort-Associated Angina):** PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlling trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.
WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis. Administration of PROCARDIA with digoxin increased digoxin levels in nine of twenty normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility. When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy. Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2%, and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGPT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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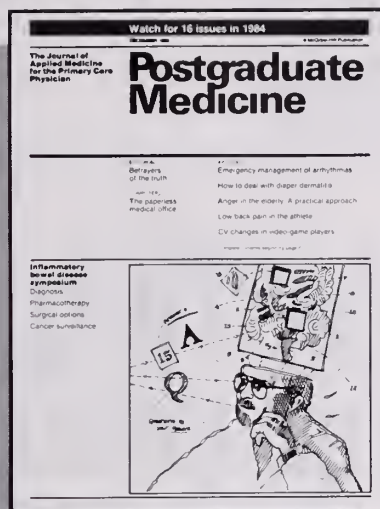
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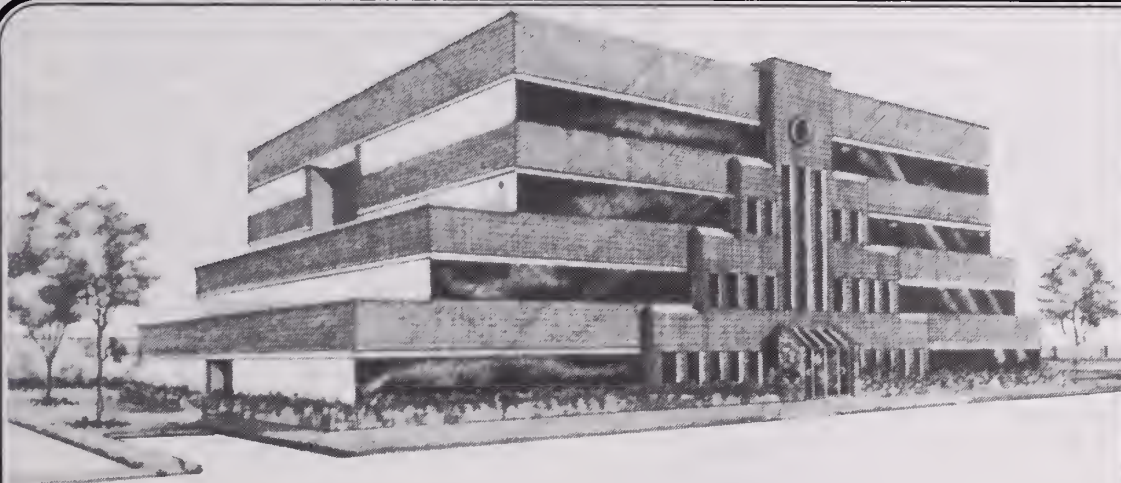


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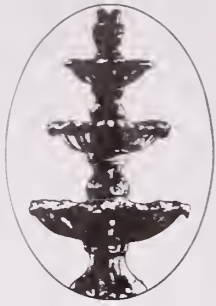


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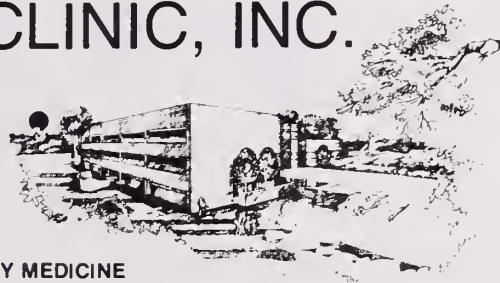
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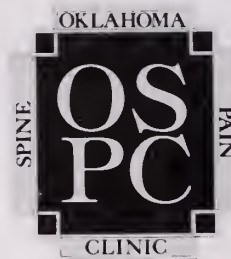
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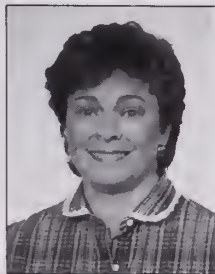
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■ **James A Merrill, MD**, was the guest of honor at a reception April 27 at the Faculty House in Oklahoma City. Hosted by members of the Department of Obstetrics and Gynecology, University of Oklahoma College of Medicine, the reception was in recognition of Merrill's "twenty-three years of meritorious service to the Department, the College, the University, and the Discipline of Gynecology and Obstetrics."

■ **The 1984 Annual Spring Symposium in Ob/Gyn**, sponsored by the University of Oklahoma College of Medicine and the Maternal and Child Health Services of the Oklahoma State Department of Health, will be held Thursday, June 7, and Friday, June 8, at the Lincoln Plaza Inn in Oklahoma City. The theme is Conception and Contraception: An Active Approach. For registration information call (405) 271-2350.

■ **Cochlear implants** are finding increasing acceptance and application, says Josef M. Miller, PhD, and Bryan E. Pfingst, PhD, of Seattle's University of Washington, in *Archives of Otolaryngology*. The implants are prosthetic devices that assist patients who have certain forms of profound hearing loss. The researchers point out that the devices were viewed with universal skepticism by otolaryngologists only ten years ago. "Even a few years ago, (the therapy) would have found few supporters," they say. "Today it finds many." A number of questions remain to be answered, including effectiveness with deaf patients who have had little or no experience with sound, but "use of the prosthesis is gaining wide acceptance," they conclude.

■ **Valium** may have been the most commonly prescribed brand-name drug in 1982, but the therapeutic class into which it falls ranked third behind anti-infective drugs and cardiovascular drugs. These findings were published recently in the *Journal of the American Medical Association (JAMA)* by Carlene Baum, PhD, and colleagues for the FDA.

■ **May 1** was the opening date for the new Mercy Hospital Anorexia Bulimia Treatment and Education Center in Oklahoma City. G. Michael Steelman, MD, medical director for the center, says the Mercy program will be similar to the one at St John's Mercy Medical Center in St Louis, where the success rate is 80%. Patients will spend a minimum of three weeks in the unit undergoing treatment for the physical and emotional problems that accompany anorexia and bulimia.

■ **Changing dietary habits** would probably reduce Americans' risk of cancer by only a small percentage, according to Michael W. Pariza, PhD, University of Wisconsin, in the *Journal of the American Medical Association (JAMA)* recently. He takes issue with recommendations made by the National Research Council in 1982 which called on Americans to reduce their consumption of cured, pickled, and smoked foods. There is no conclusive evidence linking cancer to these or other specified elements in the American diet that would warrant such recommendations to the entire population, Pariza says.

■ **Acquired immune deficiency syndrome (AIDS)** probably is not communicable once symptoms of the disorder are evident, say Hans H. Neumann, MD, of the New Haven, Conn, department of health. "Thus far, we have no documented case of AIDS that has been acquired through direct, close contact with a patient known to be symptomatic with opportunistic infections," he says in the letters section of the *Journal of the American Medical Association (JAMA)*. He speculates that AIDS may be communicable during the incubation period when a retrovirus is attacking the immune system. He likens the events to those associated with crippling polio, "which persists for life without being contagious except for a short early period." Thus the concerns of prison guards, police officers, and others who come into contact with AIDS patients, while understandable, may be needless, Neumann says.

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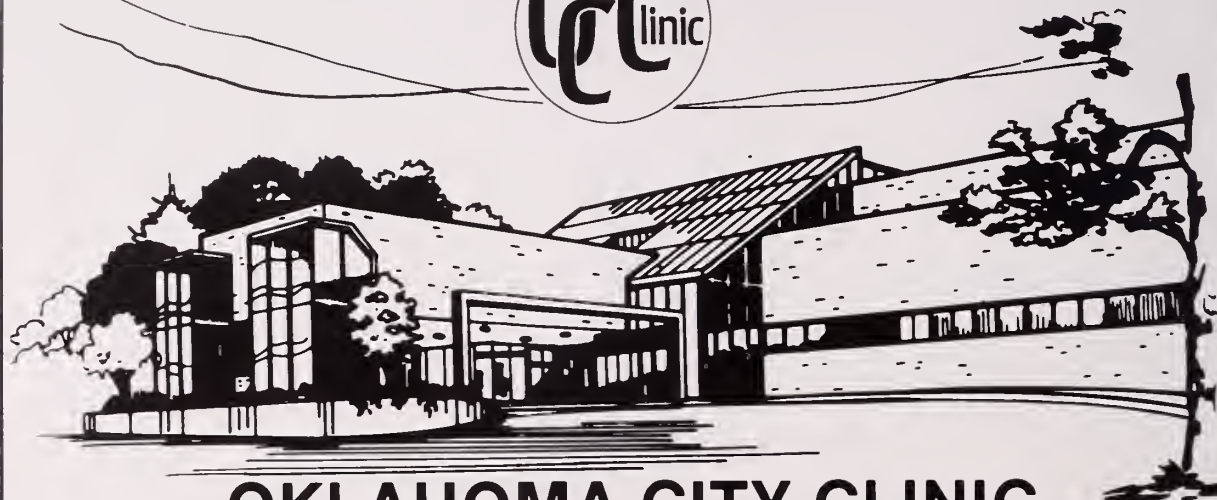
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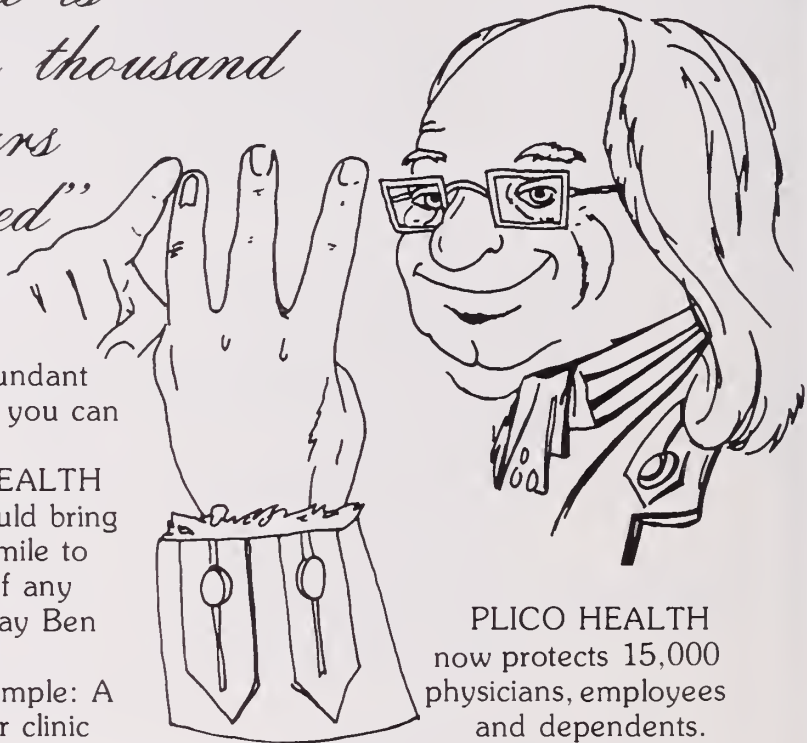
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In Praise of Medicare

Amalgamated Utopia, Inc., was a great outfit to work for. A job with them and a little seniority and you had it made. Their fringe benefits package had no equal; life insurance, health and hospital insurance, optional and graduated retirement plans to age seventy-five, low interest loans for tuition fees, and a variety of sheltered investment opportunities. Their fringe benefits were almost equal, in dollar value, to their average employee's paycheck.

As the years went by and the employees and the executives demanded larger paychecks and even more fringe benefits from Amalgamated Utopia, profits and dividends began to get smaller and smaller. In an effort to keep everyone (except their customers) happy, they replaced all the steel in their products with cheap plastic, called them "improved," and raised their prices. Profits and dividends went up and the happy stockholders rewarded the company executives with fat bonuses, six-figure salaries, and quietly arranged stock options. Then, of course, the workers demanded higher wages, shorter hours, and even more bountiful fringe benefits.

Eventually, competition from foreign manufacturers had, in the words of the consumer surveyors, "destabilized" the market, and further product "improvements" were considered unwise.

Miraculously, the federal government, in response to an overwhelming mandate from the people, created a nationwide tax-financed, universal fringe benefit for all workers of a certain

age. It was called "Medicare," and it assumed the burden of paying for the most expensive of all Amalgamated Utopia's fringe benefits; the health and hospital insurance. It was, as loudly proclaimed by Utopia's president, costing them more than all the steel they put in their products. Obviously something had to be done, particularly about the older employees and retirees who were playing havoc with the trust balances and actuarial figures.

Amalgamated Utopia was, once again, able to make everyone happy. The taxpayers had generously agreed to pay for the costliest segment of the most expensive of its fringe benefits. Amalgamated Utopia, Inc., was grateful.

And so were twenty-five thousand other US corporations. And the armed forces. And the labor unions. And the insurance companies. And the politicians. And the bureaucrats.

Especially grateful were the executives of Amalgamated Utopia, Inc. *They* remained solvent. Praise be to Medicare!

(It should be noted here that Utopia's chief executive officer and three of its highest paid directors have generously volunteered their time and expertise in the effort to reduce the cost of health care and preserve Medicare. "Industry," they say, "demands it. If something isn't done, Medicare — perhaps even the federal government — will be bankrupt in a few short years.")

Now the second most expensive of the fringe benefits is . . .

—MRJ

Youth will serve

One of my top priorities in this organizational year of 1984-85 is to seek out and utilize the knowledge, wisdom and, sometimes, guile of our membership through appointments to the many Councils and several OSMA Committees. As a side effect, I hope and pray that the OSMA leadership of tomorrow will develop. For your information, here are some pertinent facts I considered.




Physicians under 40 years of age made up 41.8% of the physician population in 1981, according to the figures available from the AMA Physician Masterfile, up 1% from the previous five years; surely the percentage of younger physicians has increased substantially between '81 and now. An AMA Long-Range Planning and Development Council report in December 1982, "Study of Young Physicians," details the characteristics of MDs in the first five practice years, the previous influences of their medical school faculty, residency teachers and peers, often negative regarding organized medicine, and finally the many pressures present during those years of early practice.

Accordingly, as I studied the task of Council and Committee appointments, I sent letters to younger-than-40 members, candidly offering them an opportunity to participate actively on the Councils, requesting their "credentials" and spheres of interest. Though I received no deluge of responses, I have placed on the various Councils of OSMA over thirty qualified physicians, based on generally thoughtful and knowledgeable letters, some with curricula vitae of several pages, to mingle there with the more experienced and older physicians.

So the Association Councils have been formed . . . letters of appointment have been dispatched . . . acceptances (and a few rejections!) received. Now comes "Phase II" — the commitment to study and deliberate problems which, of course, involves preparation ahead, attendance, and responsible action/reaction.

To those younger doctors who, for whatever reason, chose not to respond to my invitation, it's never too late to volunteer your services for the future! There is ALWAYS a need for greater participation and representation in OSMA. Who knows . . . your whole Association may benefit from something you might contribute!

 *J. Seidger III, M.D.*

Diet and Hyperactivity

HARRIET W. COUSSONS, MD

"Hyperactivity" and attention deficit disorder continue to plague physicians who care for children. Dietary management remains controversial. Three popular theories and their efficacy are reviewed.

Hyperactivity is a disorder we often hear mentioned when medical problems of children are discussed. It is estimated to occur in about 10% of the school age population.¹ Definitions and descriptions of hyperactivity have changed through the years as our concepts have changed. Although we can describe "typical" clinical behavior, research in this area has been difficult because no two patients are alike in their constellation of etiologies, severity of symptoms, and responses to environment. "Hyperactivity" simply defies definition as a "syndrome." However, we do recognize a group of children in our society who are impulsive, insatiable, and distractible, with short attention spans and learning problems. The Diag-

nostic and Statistical Manual, 3rd edition (DSM 3) criteria label their characteristics Attention Deficit Disorder (ADD).² They may or may not have specific learning disabilities and may or may not be physically hyperactive. The principal characteristic of this group is the inability to selectively focus attention on what is important. One child described his head as "feeling like a TV set with all channels coming in at the same time."^{3,4} At times the patient can attend and control his behavior during a brief office visit or one-to-one encounter but then develops attention and behavior problems in a group setting like school.

The outcome of ADD is fairly predictable. These children suffer school failure, poor peer relationships, and poor self-esteem, which they often carry with them through life.³ Studies in recent years have indicated hyperactivity or distractible behavior is not necessarily outgrown at puberty. Alcoholism, accidents, and infractions of the law are more common in these patients than in the population as a whole.³ Appropriate educational remediation, behavioral management, family counseling, psychotherapy, and drug therapy are accepted means of helping these children and their

This paper was presented at the 3rd Annual Symposium on Nutrition in Pediatrics, October 7, 1983, Oklahoma Children's Memorial Hospital, Oklahoma City.

families cope with this chronic problem.

Although ADD is considered a "low severity" or mild handicap, parents may react to it with feelings of denial, anger, depression, or grief, and may "doctor shop" and try fad cures proposed in the lay press.^{5,6} This paper attempts to review three kinds of diet therapy and their clinical usefulness.

Feingold Diet

Ten years ago the late Dr Ben Feingold presented his ideas to the American Medical Association (AMA) convention and published his book *Why Your Child is Hyperactive* in 1975.⁷ He claimed that salicylates, food colorings, and artificial flavorings produce toxic effects in the brains of certain genetically predisposed children, causing them to be hyperactive. In addition to commercial and medicinal salicylates, his diet eliminated "natural" ones found in a number of fruits and vegetables such as apples, oranges, berries, and tomatoes. To avoid the preservatives BHT and BHA, patients were to avoid processed foods such as lunch meats and other prepared meats, baked goods, ice creams, pudding, candy, soft drinks, condiments, and many others. Sugar was not specifically excluded, but as all baked goods had to be made from "scratch," no doubt sugar, wheat,

Studies of the Feingold diet were somewhat controversial.

and corn intakes were decreased in many children. Persons on the Feingold diet literally could not find appropriate meals in a school cafeteria or restaurant.⁸

It was recommended that the entire family be on the diet with the child. Problems with the diet included possible vitamin C deficiency, increased time and effort in meal preparation, possible hostility toward the target child by martyred family members, and singling out of the child as "different."

The diet especially appealed to people who wanted to feel more in control of their children's management, who distrusted doctors and medicine, and who were in the "back to nature" movement.

Dr Feingold claimed that 40% to 60% of hyperactive children improved on his diet, and that if infractions of the diet occurred, behavior immediately worsened and could remain so as long as 48 hours. However, Dr Feingold never published in a medical journal with controlled studies and critical analysis by peers. He was publicized by the lay press and national TV. Pediatricians who weren't watching the daytime TV shows were caught unaware. By the time the first analytical studies appeared in pediatric literature in 1976,⁹⁻¹² there had been a ground swell of lay enthusiasm, and many Feingold associations of parents had formed across the country.

The controlled studies of the Feingold diet were somewhat controversial in their own right. There were two means of study: in one type, the Feingold diet and a control diet were given on a double-blind basis and parents and teachers scored behavioral changes in the children. At least two of the studies showed behavioral improvement on the control diet when it was given before the Feingold diet.^{9,12} Thus, any change in diet appeared to improve behavior, possibly because of a change in parent-child interaction. The other type of study gave "responders" to the diet a challenge of food colors or placebo on a double-blind basis, and observations were made of learning ability and motor activity.¹³⁻¹⁵ Statistical analysis showed that a very small number of children responded to the Feingold diet, and even fewer showed behavioral reactions to the food diet challenge. Most studies looked at a very small number of children. Certainly Dr Feingold's claims of 40% to 60% improvement in his group of patients were not supported. In addition, the marked and prolonged changes in behavior that he attributed to diet infractions were not observed.

The latest word on the subject of the Feingold diet is a statement from the January 1982 Conference on Defined Diets and Hyperactivity at the National Institute of Health (NIH). "Hyperactivity" was defined by the DSM 3 criteria. Data on studies of the Feingold diet and its modifications were reviewed. It was concluded that the diet could not be recommended for universal use, but since a few children did seem to respond, a trial of the diet might be warranted in some cases. The committee recommended thorough evaluation of the child and consideration of the family's cultural, ethnic, and socioeconomic background before the diet trial. The conference recom-

mended more research in family dynamics, diet studies, animal studies, and the etiology and measurement of ADD. A biological explanation for the effects of diet on hyperactivity has yet to be determined; the effects of food colors on neurotransmitters have been studied, but this is still very much up in the air.¹¹ There is no way to predict which child will benefit from the diet, and the long-term effects of the diet need study.

Food Allergy

Allergists interested in behavior problems such as hyperactivity began to speak up in the 1970s but did not receive as much media coverage as the Feingold theorists. The "Attention Fatigue Syndrome" was described in the 1950s as a constellation of headache, stomachache, enuresis, frequent colds, and behavioral problems which included irritability and hyperactivity.¹⁷ Other signs such as "allergic shiners," "allergic salute," and nasal congestion were often present. Food allergy was a suspected culprit, and there were many anecdotes (but again, few controlled studies) that described improvement of symptoms with elimination of milk, corn, wheat, chocolate, and/or other foods from the diet. Claims were made that some children with learning disabilities improved on allergen-free diets.¹⁸ It has been estimated that food allergy occurs in 10% to 15% of children.¹⁸

Psychological reactions to food seem to play a major role.

This is another controversial area where there are few data and many skeptics. First of all, how one diagnoses food allergy is controversial. The best test method appears to be the controlled double-blind food-placebo challenge. However, these test results are subjective, and psychological reactions to food seem to play a major role in responses.^{19,20} One study in 1980 by Trites²¹ looked at a group of hyperactive children and found 77% had allergies. They tested for food allergy by assaying IgE antibody. They then took normal and allergic hyperactive children and gave them

either a control diet or an allergen-free diet on a double-blind basis. A very high placebo effect was seen, as many in both groups improved on the control diet. Statistical analysis showed no real improvement in hyperactive behavior in either the allergic or nonallergic children on the allergen-free diet. However, a few individuals within the allergic group did improve on the treatment diet, thus providing anecdotal information.

Some believers in the food allergy etiology suggest trying an elimination diet for learning-disabled children with allergic shiners, stuffy noses, headaches, abdominal pains, muscle pains, and enuresis. Theoretically, a hyperactive allergic child will improve in five to ten days if he is responsive to diet changes.^{18,22}

Sugar

Besides the Feingold diet and food allergy, a third theme in the diet-hyperactivity controversy revolves around sugar in the diet. We hear from our patients, fellow workers, neighbors, and relatives that "sugar makes children hyperactive." There is no documented relationship between sugar and hyperactivity in the pediatric literature, but there are many claims and anecdotes in the lay press.²³ Reactive hypoglycemia is blamed for symptoms of fatigue, depression, and irritability in adults and for hyperactivity and acting-out behavior in children. Whether these symptoms represent hypoglycemia is controversial. Theoretically, junk foods and refined sugars raise the blood sugar abruptly and stimulate release of insulin from the pancreas, which then lowers blood sugar below resting levels. There have been a few reports of abnormal glucose tolerance tests and some children who became "hyper" as the blood sugar level fell. Levin²⁴ reported 74% of 265 children had abnormal glucose tolerance tests and found 70% to 80% improvement in their hyperkinesis and learning ability on a low carbohydrate-high protein diet. However, there have been no controlled studies to substantiate these claims.

Otto et al.²⁵ looked at sucrose metabolism and behavior in a group of nine Prader-Willi patients. Common characteristics of this disorder include hypogonadism, obesity, hypotonia, mental retardation, and behavioral characteristics such as bizarre eating habits and hyperactivity. Many parents of these patients reported deterioration in their children's behavior after ingesting concentrated sugar.

The children were given sucrose or placebo on a double-blind basis, and physical activity and learning as shown by standardized tests were observed. No statistically significant effect could be attributed to excess sugar intake. Abnormal glucose tolerance including hypoglycemia was not documented in this group of patients. A number of critiques of this study are listed by the authors themselves. This article does represent a landmark effort to scientifically study the effects of sugar on behavior.

We physicians tend to scoff at health ideas projected by the lay press. Perhaps there is something to the sugar-hyperactivity story, or perhaps we are again seeing the results of the placebo effect: A change in diet reflects a change in the parent-child relationship. More research with critical analysis is needed in this area.

Summary

So where does that leave us? It appears that there is a small number of ADD children who benefit from the Feingold diet and some allergic ones who improve on allergen-free diets. We cannot predict which child will respond and have little idea of the biological and/or psychological mechanisms at work.

Hyperactivity is a tough problem to live with, and if a few children do respond to diet, and the diet is safe, a two-to-three-week maximum trial of diet therapy may be reasonable to suggest to some families. If no improvement is evident after three weeks, the diet should be discontinued. The use of these diets is an emotional subject with some people, and blind enthusiasm, rigidity, and outlandish claims have been part of their heritage. Parents

Of concern is the change in the family's life-style and potential psychological problems which may result for the patient and other members of the family. There is added stress on the mother in shopping, meal planning, and creating cuisine from "scratch." Siblings and parents may feel martyred and hostile toward the target patient, who is already struggling for self-esteem.

Of particular concern is the child and the family's attitude toward the basic problem: the child's inattentive, impulsive, hyperactive behavior. If parents zero in on the diet as the child's main problem, other aspects of management may be overshadowed. Sometimes parents with a hyperactive child feel he "can't help himself" because of his problem, and attempts to manage behavior are lax. It is easy to blame "diet" and to take emphasis off the need for behavioral management. The child himself may get the idea that he can't control his behavior unless he sticks to the diet. He may think eating a forbidding item gives him the "right" to act up. By emphasizing diet we may be doing the child and family a disservice. The basic responsibility for his behavior should ultimately rest with the child; he needs to develop a sense of competency and self-control. We should continue to rely on the conventional standbys for management of Attention Deficit Disorder: education, psychotherapy, behavioral management, and family counseling, and continue to analyze critically other means of management.²⁰ The ongoing research in this area will, it is hoped, provide more answers in helping the hyperactive child.

Thanks to Ms. Gay Dietrich for typing the manuscript.

It is easy to blame "diet."

should be given some means of objectively assessing the child's behavior (more definite measurements are needed here) and if there is no real change, should discontinue the diet. The placebo effect of the study diets is an interesting concept to share with parents. Perhaps some behavioral changes on their part might negate the need to try the diet in the first place.

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Department of Pediatrics and Child Care, Children's Memorial Hospital, University of Oklahoma Health Sciences Center, PO Box 26901, Oklahoma City, Oklahoma 73190.

Harriet Wildman Coussons, MD, was graduated from Johns Hopkins University School of Medicine, Baltimore, in 1965. Currently she is an assistant professor, University of Oklahoma Health Sciences Center, Department of Pediatrics and Child Study Center. She is a member of the American Academy of Pediatrics and Alpha Omega Alpha.

The Sanitary Situation

As we have been in office a month we must be pardoned for wanting to reform everything about us. Perhaps we cannot do much toward the regulation of the festive fire cracker and the toy pistol, but we feel that there is not a physician in the state who cannot do more or less toward the prevention of our greatest plagues — malarial infection, typhoid and dysentery. The first mentioned is of far greater importance from an economic standpoint, they are all bad enough and are all preventable. The loss to the state annually due to these preventable diseases cannot be computed, any attempt to arrive at it leads one to a staggering summary. From the banker's desk to the man in the field pitching hay malaria yearly collects its toll.

The writer has observed that as his home town becomes more civilized in respect to drainage of ponds and oiling those that cannot be drained the malarial indicator falls lower. Every physician in the state has observed the same conditions and many have taken advan-

tage of their knowledge of the sources of infection to insist publicly and privately that the proper remedy be applied.

A written communication to your city council backed up by a strong personal appearance of the virile men of the profession of your locality before the authorities, showing them by argument and illustration the good to be accomplished in a general cleaning up and how it may be done goes far toward the solution of the problem.

Personally each physician should find it within his province to show the family who know him as attendant how to do their share. The intelligent already know, the thoughtless have not thought and the ignorant do not know how to think about it. They will appreciate your intervention in their sanitary affairs; those who do not need not be worried much with your consideration.

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Nutrition for the Practitioner III

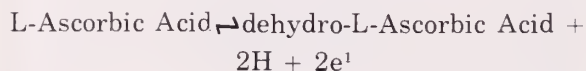
Current Concepts in Nutrition: Vitamin C

STEPHEN R. NEWMARK, MD

Vitamin C, a required nutritional component for all humans, is necessary in order to have optimal synthesis of collagen and adequate hemostasis. There is no evidence that excessive use of vitamin C will prevent respiratory illness or protect against human cancers.

Structure

Vitamin C, or ascorbic acid, is a relatively simple carbohydrate ($C_6H_8O_6$) that undergoes reversible oxidation and reduction:



The property of ascorbic acid to undergo oxidation-reduction is responsible for its biological activities; there is no evidence that it acts as a coenzyme, which is a common activity of the other water-soluble vitamins.

Function

Vitamin C is a reducing agent and likely is important as an antioxidant, "protecting"

other substances such as the peptide glutathion.^{2,3} In addition, it may be involved in preventing oxidation of vitamin E and essential fatty acids.^{2,3} It appears to maintain folic acid and folic acid metabolites in a reduced state and also may promote the absorption of iron.³

Vitamin C is important in the hydroxylation reactions of proline and lysine, which are required for normal collagen synthesis.^{2,3} Vitamin C is likely to be important in carbohydrate homeostasis as scorbutic animals demonstrate hyperglycemia, although the biochemical explanation for these changes is obscure.³

Absorption and Metabolism

Vitamin C, a water-soluble vitamin, is absorbed in the proximal small bowel.¹⁻³ The total vitamin C pool in the adult is 1,500 mg. If blood levels of vitamin C exceed 1.4 mg%, the excess is excreted by the kidneys. It appears that the daily catabolic rate of vitamin C is 3% of the total body pool.

Certain diseases (tuberculosis, hyperthyroidism, acute thermal injuries, trauma) are associated with increased metabolism of vitamin C and may require elevated replacement doses.³

Southwestern Metabolism and Diabetes Center, Saint Francis Hospital, University of Oklahoma Tulsa Medical College, Tulsa, Oklahoma 74136.

Recommended Daily Allowances

The recommended daily allowances (RDA) for vitamin C are the following: Adults, 50 to 60 mg; children, 45 mg; infants 35 mg; pregnant women, 75 to 85 mg; lactating women, 90 to 100 mg.³

Vitamin C is found mainly in vegetables. Food sources containing vitamin C have been divided into three basic groups depending on their content per 100 grams of the food source.³

Group A: (Provides 100 mg vitamin C per 100 grams of source)

Berries, black currants, sweet peppers, broccoli, brussels sprouts

Group B: (Provides 50 mg vitamin C per 100 grams of source)

Cabbage, cauliflower, mustard greens, spinach, watercress, juicy citrus fruits

Group C: (Provides 30 mg vitamin C per 100 grams of source)

Asparagus, lima beans, potatoes, melons, grapefruit, limes

Some foods in Group C are important sources of vitamin C because they are consumed in large quantities (eg, potatoes, melons, etc).

Deficiency

Ascorbic acid deficiency syndromes occur when the total body pool < 300 mg or when the ascorbic acid concentrate in serum < 0.2 mg%.⁴ (Normal serum levels range from 0.4 mg% to 1.5 mg%). The "buffy-coat" (WBC and platelets) content of vitamin C approximates tissue concentration more closely than serum estimates, and values < 2 $\mu\text{g}/10^8$ WBC are associated with deficiency states.⁶

Deficiency states are encountered in infants in many parts of the world, in chronic alcoholics, in malabsorption disease, and in patients with very restricted diets. Mild symptoms are encountered in nursing home patients.

Early vitamin C deficiency symptoms include weakness, anorexia, and muscle tenderness. Symptoms of scurvy appear when blood levels are less than 10% to 25% of the normal value and include perifollicular hyperkeratotic papules, perifollicular hemorrhages, and purpura usually appearing in the back of the legs. Hemorrhaging can occur in muscles, nerve and tendon sheaths, and into the periosteum of bones. Friability of the gum may be noted, and bleeding of the gums with loosening of the

teeth can occur. Dryness of the skin and eyes has been observed.²⁻⁴

Children may present a characteristic picture of hemorrhaging into the long bones with separation of the epiphysis. The sternum may collapse, making the costochondral junction prominent (scurvitic rosary). Subsequent hemorrhaging into the muscles and periosteum and the resulting pain may produce a pseudoparalysis in which the child will not move and will assume a froglike position to lessen the pain.

Anemia is frequently observed in scurvy although its pathogenesis is not well understood. Blood loss, poor iron absorption, and altered folate metabolism have been suggested as possible explanations.

Treatment

Administration of vitamin C in oral doses of 400 mg per day in divided doses for adults and of 100 mg in divided doses for children produces rapid resolution of the clinical deficiency state. Bleeding quickly resolves, pain subsides, and oral lesions heal within a few days.²⁻⁴

Pharmacological Doses

Acute doses of vitamin C generally do not cause toxic effects; however, sustained elevated chronic doses (grams) have produced diarrhea, decreased vitamin B¹² absorption, increased urinary excretion of oxalate with possible increased formation of oxalate stones, decreased urinary solubility of uric acid, and possible increased iron stores.²⁻⁴ A chronic increase in vitamin C intake may produce induced catabolic reactions metabolizing vitamin C; therefore, if the vitamin C intake is reduced to normal levels, a deficiency state could result secondary to the prior induced increased metabolism.

Linus Pauling has written extensively on the benefits of large doses of vitamin C, particularly in the prevention and treatment of upper respiratory infections and the common cold.⁵ Although there is some evidence demonstrating that vitamin C has a mild antihistaminic effect when administered in large doses, there are no data demonstrating the efficacy of vitamin C in the prevention or treatment of the common cold.⁶

Vitamin C has been suggested as a treatment for cancer, and it has been suggested that increased survival is observed in cancer patients ingesting vitamin C.⁷⁻⁹ However, the re-

relationship between vitamin C and human cancer is still not apparent, and it is premature to recommend any specific dose for vitamin C in cancer patients.

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Southwestern Metabolism and Diabetes Center, William Medical Building, 6585 South Yale, Tulsa, Oklahoma 74136.

Stephen R. Newmark, MD, is associate professor of medicine, University of Oklahoma Tulsa Medical College, specializing in endocrinology and metabolism. He was graduated from the University of Pennsylvania School of Medicine in 1969. Newmark is a Fellow of the American College of Physicians and American College of Nutrition. He holds memberships in many professional organizations including the Endocrine Society, American Diabetes Association, and the American Institute of Nutrition.

Public Health Notes

It is gratifying to note that there is an extended effort on the part of State Boards of Health and medical organizations to induce public utility corporations to use intelligent means to prevent the spread of disease in the matter of using the ordinary drinking cup as it is seen at public fountains, hotels and on railway cars.

This is one of the most potent sources undoubtedly in carrying infection and the medical press will welcome the day when universal regulations are ordained which will remedy to the fullest extent these sources of trouble.

Several states have already taken up the matter of requiring transportation companies to provide for a separate bowl to be used for dental purposes in sleeping cars. As the condition now usually prevails one goes into the smoking room, washes his teeth and expectorates during the performance into the bowl used by the passengers in common for face and hands. Some roads have already provided, of their own volition, bowls for such uses, but it will probably require a law to force most of them to provide these ordinary needs.

During the five months ending May 31st, 1909, there were 218 deaths from tuberculosis in the state, the rate of mortality from this disease being higher than from any other cause.

During the above period nineteen physicians died from various causes.

On August 1st a rule will be promulgated by the Oklahoma State Board of Health requiring that all tubercular cases be reported to the County Superintendents of Public Health and that all typhoid fever cases be reported to the same officers.

The necessary blanks for these reports will be furnished the profession at an early date and the laboratories of the State University will be called into use in assisting the diagnosis in cases of doubt.

—OSMA Journal
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Effect of Vitamin C on Blood Parameters of Hypertensive Subjects

EUNSOOK T. KOH, PhD

Vitamin C may be beneficial for hypertensive subjects by lowering plasma levels of very-low-density lipoprotein-cholesterol (VLDL-cholesterol) triglycerides and sodium.

Twenty-three subjects were selected from a group of mildly hypertensive women who had systolic blood pressures of 140-160 mmHg and/or diastolic pressures of 90-100 mmHg, were age 35 years or over, and did not use medicine or drugs. These women were given 1,000 mg of vitamin C orally every day for three months. At both the beginning and the end of the study, blood was collected from fasting subjects for chemical analysis. Levels of hemoglobin; serum iron; protein; albumin; alpha-1-, alpha-2-, beta-, and gamma-globulins; immunoglobulin A, G, and M; glucose; vitamin C; triglycerides; sodium and

potassium; plasma cholesterol; very-low-density lipoprotein-cholesterol (VLDL-cholesterol); low-density lipoprotein-cholesterol (LDL-cholesterol); and high-density lipoprotein-cholesterol (HDL-cholesterol) were determined. Blood pressure, weight, and height were also measured. Vitamin C supplement significantly lowered α -1-globulin, triglycerides, sodium, and VLDL-cholesterol levels ($P < 0.05$). Glucose levels and systolic and diastolic blood pressures were also decreased but less significantly ($P < 0.1$). Vitamin C level was increased at 10%. The study suggests that vitamin C supplements may be beneficial for hypertensive subjects by lowering plasma lipids and blood pressure.

Introduction

Contradictory effects of vitamin C supplements on cholesterol levels were reported in several studies. Some investigators showed a "raising effect"¹; other investigators, "no effect"²; and still other investigators showed "lowering effects."³ The mechanism of this phenomenon is not clear. Its interpretation is made more difficult, as in the case of vitamin C-deficient ani-

From the Department of Home Economics, Alcorn State University, Lorman, MS 39096.

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mals, by the complex metabolic disorganization brought on by scurvy.⁴ Whether a causal relation is involved remains an open issue. Despite this, several authors have described a statistically significant negative correlation between vitamin C status and ischemic heart disease.⁵⁻⁸

Our survey⁹ showed that vitamin C had a negative correlation with diastolic and systolic blood pressures, triceps and subscapular skin-fold thickness, and weight among the black population. These relationships were confirmed by our continuing study¹⁰ for both blacks and whites, for both men and women. On the other hand, globulin had a positive relationship with obesity and hypertension in both studies.

To test these relationships among vitamin C, protein fractions, and blood pressure, the vitamin C supplementary study was conducted in twenty-three mildly hypertensive women.

Method and Materials

Twenty-three hypertensive women who had systolic blood pressures of 140-160 mmHg

and/or diastolic pressures of 90-100 mmHg and were age 35 years or over were selected from among regularly visiting patients at the Health Department in Claiborne County, Mississippi. The women were instructed not to take any medication or drugs, not to change eating habits and life-styles, and not to change foods. These women were given 1,000 mg of vitamin C orally daily for three months. At both the beginning and the end of the study, blood was collected from fasting subjects for chemical analysis. Two vacutainers of blood were collected from the arm of each subject. One tube contained disodium EDTA as an anticoagulant for the analysis of hemoglobin,¹¹ plasma cholesterol, VLDL-cholesterol, LDL-cholesterol, and HDL-cholesterol.¹² The other tube contained no anticoagulant.

Nonstabilized blood was centrifuged (5,000 x g, 20 min, 4°C) and the sera were used for the determination of total protein; albumin; α -1-, α -2-, β -, and γ -globulins; immunoglobulin A, G, and M¹³; iron¹⁴; glucose¹⁵; vitamin C¹⁶; triglycerides¹⁷; and sodium and potassium.¹⁸

Table 1. Comparison of Parameters Before and After Vitamin C Treatment

Parameters	Unit	Pretreatment	Posttreatment	t-test
Total protein	g/100 ml	7.310 \pm 0.098*	7.290 \pm 0.083	NS ¹¹
Albumin	g/100 ml	3.880 \pm 0.068	3.980 \pm 0.071	NS
α -1-globulin	g/100 ml	0.277 \pm 0.011	0.237 \pm 0.011	0.012
α -2-globulin	g/100 ml	0.787 \pm 0.035	0.751 \pm 0.026	NS
β -globulin	g/100 ml	0.967 \pm 0.024	0.965 \pm 0.027	NS
γ -globulin	g/100 ml	1.451 \pm 0.068	1.402 \pm 0.066	NS
Albumin/globulin	g/100	1.130 \pm 0.031	1.204 \pm 0.044	0.100
Immunoglobulin G	ng/100 ml	1252.000 \pm 52.130	1202.000 \pm 55.250	NS
Immunoglobulin A	ng/100 ml	239.500 \pm 18.520	228.700 \pm 19.100	NS
Immunoglobulin M	ng/100 ml	155.600 \pm 16.030	154.400 \pm 23.620	NS
Hemoglobin	g/100 ml	13.300 \pm 0.241	13.300 \pm 0.197	NS
Glucose	mg/100 ml	107.800 \pm 10.250	99.600 \pm 5.750	0.090
Vitamin C	mg/100 ml	1.579 \pm 0.110	1.853 \pm 0.122	0.100
Triglycerides	mg/100 ml	222.700 \pm 24.540	145.800 \pm 14.080	0.009
Iron	mg/100 ml	0.097 \pm 0.005	0.085 \pm 0.005	0.086
Sodium	mEq/l	135.600 \pm 0.780	132.400 \pm 1.320	0.049
Potassium	mEq/l	4.660 \pm 0.035	4.620 \pm 0.440	NS
Plasmacholesterol	mg/100 ml	239.200 \pm 12.480	216.700 \pm 9.150	NS
VLDL-cholesterol †	mg/100 ml	76.080 \pm 7.880	52.650 \pm 4.810	0.025
LDL-cholesterol ‡	mg/100 ml	120.300 \pm 5.270	123.900 \pm 5.290	NS
HDL-cholesterol §	mg/100 ml	42.860 \pm 1.330	42.950 \pm 1.570	NS
Weight	pound	172.190 \pm 7.220	173.540 \pm 7.700	NS
Height	inch	63.090 \pm 0.450	63.160 \pm 0.480	NS
Systolic pressure	mmHg	143.900 \pm 2.860	136.300 \pm 3.130	0.080
Diastolic pressure	mmHg	87.800 \pm 1.400	83.800 \pm 2.090	0.065

*Mean \pm SE. †Very-low-density lipoprotein-cholesterol. ‡Low-density lipoprotein-cholesterol.
§High-density lipoprotein-cholesterol. ¶Nonsignificant.

A standard clinical sphygmomanometer was used by the examiner to measure blood pressure. Blood pressure measurements were taken on the left arm with the subject sitting on an examining table. Blood pressures were determined twice, once in the morning and again in the afternoon of the same day.

Height was measured with the subject in stocking feet, feet together, back and heels against the upright bar of the height scale, head approximately in the Frankfort horizontal plane ("look straight ahead"), and standing erect ("stand up tall" or "stand up real straight") with some assistance or demonstration when necessary.¹⁹ The scale, which had a measuring rod and support pillar, was used for the measurements of height and weight. Weight was measured with the subject dressed in light clothing.

Statistical Analysis

The t-test was used for comparing the data before and after treatment with vitamin C. The percentage of subjects with inadequate levels of various blood components and blood pressures was also compared.

Results

Blood components and selected anthropometric measurements made before and after vitamin C treatment were compared (Table 1). Total protein and albumin levels were within the normal values, and they were not changed by vitamin C treatment. However, protein level decreased slightly, whereas albumin increased slightly. For globulin fractions, only α -1-globulin was significantly decreased by vitamin C supplement. This result is strongly supported by the percentage of subjects with abnormally high levels of α -1-globulin (>0.30 g/100 ml of serum) (Table 2). The percentage decreased from 30.0% at the beginning of the study to 4.3% at the end. The other globulins also decreased but not significantly. The percentage of subjects with abnormally high levels of all globulins and immunoglobulins also decreased: α -2-globulin, from 30.0% to 13.0%; β -globulin, from 34.7% to 26.0%; γ -globulin, from 34.7% to 26.0%; immunoglobulin G, from 4.3% to 0.0%; and immunoglobulin A, from 21.7% to 8.6%. In contrast to these observations, the ratio of albumin to globulin significantly increased at the 10.0% level. The mean level of this ratio was below the normal value such as 1.2 at the beginning. This was corrected to slightly over the normal value through the addition of the vitamin C

supplement. This was confirmed by the percentage of subjects with an inadequately low ratio of albumin to globulin (60.8% at the beginning vs 34.7% at the end).

Hemoglobin level was not changed by vitamin C treatment. Glucose levels were decreased by vitamin C supplement at a 9.0% significant level. However, the percentage of hyperglycemia (glucose > 110 mg%) was slightly increased. Serum vitamin C level was changed only at a 10.0% significance level although 1,000 mg of vitamin C were given daily.

Triglycerides were decreased by 35.0% (223 mg% at the beginning vs 146 mg% at the end). The proportion of hypertriglyceridemia (serum triglycerides > 165 mg%) was also markedly decreased, showing that 65.2% of the subjects were hypertriglyceridemic at the beginning, whereas 34.7% were hypertriglyceridemic at the end. For serum iron, none had an inadequate level either before or after treatment. However, the mean serum iron was decreased at a significance of 0.086.

For electrolytes, serum sodium and potassium were measured. Sodium levels were decreased by vitamin C treatment at a significance level of 0.049. This was also shown by the comparison of the percentage of subjects with serum sodium greater than 130 mEq (91.3% vs 69.5%). However, potassium levels were not changed by the vitamin C treatment.

Plasma lipoprotein cholesterol was profiled. The VLDL-cholesterol was significantly decreased by 31.0%, agreeing with the decrease of serum triglycerides. The mean level of VLDL-cholesterol for these subjects was abnormally higher than the normal range of

Vitamin C supplement reduced sodium content in the blood.

20-40 mg/100 ml. The mean level for these subjects was 76.08 mg/100 ml plasma at the beginning and reduced to 52.65 mg/100 ml plasma at the end. Five subjects among twenty-three had a VLDL-cholesterol level greater than 100 mg/100 ml (extremely high level) at the beginning. However, at the end of the study no one had a VLDL-cholesterol level greater than 100 mg%. Plasma cholest-

terol, LDL-cholesterol, and HDL-cholesterol were all within the normal range and were not changed by vitamin C treatment.

Selected anthropometric data — weight, height, and blood pressure — are reported in Table 1. No significant change for weight and height was observed. Both diastolic and systolic pressures were decreased at the significant levels of 0.065 and 0.080, respectively. The mean systolic pressure was 143.9 mmHg at the beginning and 136.3 mmHg at the end. The mean diastolic pressure was 87.8 mmHg at the beginning and reduced to 83.8 mmHg at the end of the study. The proportion of hypertension (systolic pressure > 140 mmHg and/or diastolic pressure > 90 mmHg) was reduced from 69.5% to 47.8% for systolic pressure and from 73.9% to 26.0% for diastolic pressure.

Discussion

The subjects were selected from a group of mildly hypertensive women who had systolic pressures of 140-160 mmHg and/or diastolic pressures of 90-100 mmHg. Primary in the sampling was that the women could do without using medicine or drugs. To determine the effect of vitamin C, the subjects were asked not to use any medicine or drugs for hypertension and other diseases.

Although contradictory effects of vitamin C supplements on cholesterol were reported, several authors⁵⁻⁸ have shown a negative relation between heart disease and vitamin C status. However, how vitamin C affects heart disease is not known. Bates et al²⁰ showed that there was a significant correlation between

legge women, showed that none of the lipoprotein cholesterol and serum triglyceride levels was changed by vitamin C supplement.²¹ The difference in these two studies implies that vitamin C supplement may impose a beneficial effect on heart disease in hyperlipemic patients, especially those who also have hypertriglyceridemia. However, it is not clear at this point what type of hyperlipoproteinemia may be alleviated by vitamin C treatment. Three types of hyperlipoproteinemia, type IIb, IV, and V, increase VLDL-cholesterol with elevating triglycerides. Further studies are required to elucidate which type may be affected by vitamin C treatment.

On the other hand, the present study clearly shows that vitamin C supplement reduced sodium content in the blood. Vitamin C reduced both diastolic and systolic pressures at 10% level. However, vitamin C supplement did not change blood pressure in healthy young women.²¹ Apparently vitamin C is effective only for hypertensive patients through lowering sodium content in the blood.

Increase of body fluid volumes due to renal retention of sodium is known to raise blood pressure. It is commonly held that this is the principal factor in the pathogenesis of hypertension caused by mineralocorticoids excess²² as well as in most cases of hypertension associated with renal failure.²³

Some evidence supporting a role for the sympathetic nervous system in the physiology of experimental and human hypertension has been obtained. Furthermore, norepinephrine, which constitutes the major neurotransmitter in peripheral postganglionic sympathetic fibers²⁴ plays a major role in raising blood pressure. Champlain et al²⁵ have shown that the activation of the sympathetic nervous system induced by sodium retention was responsible for the elevation of blood pressure and the severity of the hypertension. Therefore, it may be concluded that the hypotensive function of vitamin C may result from decreasing norepinephrine release from nerve endings and from the adrenal medulla in consequence of low exchangeable sodium content in the circulation.

The blood pressure of every subject in the present study was not lowered by vitamin C supplement, but 64% of the subjects achieved lowered diastolic pressure and 31%, lowered systolic pressure. This variation in the effectiveness of vitamin C with respect to hypertension might be explained by a difference in salt sensitivity for hypertension.

Sixty-four percent of the subjects achieved lowered diastolic pressure.

plasma vitamin C and HDL-cholesterol even though no significant correlation existed between total cholesterol and vitamin C. This is not the case in the present study. Vitamin C did not change HDL-cholesterol levels, while it appeared to reduce significantly VLDL-cholesterol and serum triglycerides. This result may explain a part of the beneficial effect of vitamin C on heart disease. However, other work in our laboratory, a study of young col-

Table 2. Percentage of Subjects with Inadequate Levels of Various Blood Components.

Parameters	Abnormal criterion	Pretreatment		Posttreatment	
		No	%	No	%
Protein	< 6.4 g/100 ml*	0	0.00	0	0.00
Albumin	< 3.4 g/100 ml*	1	4.30	1	4.30
α -1-globulin	> 0.3 g/100 ml†	7	30.00	1	4.30
α -2-globulin	> 0.9 g/100 ml†	7	30.00	3	13.00
β -globulin	> 1.0 g/100 ml†	8	34.70	6	26.00
γ -globulin	> 1.6 g/100 ml†	8	34.70	6	26.00
Albumin/globulin	< 1.2†	14	60.80	8	34.70
Immunoglobulin G	> 182.5†	1	4.30	0	0.00
Immunoglobulin A	> 311†	5	21.70	2	8.60
Immunoglobulin M	> 205†	5	21.70	5	21.70
Hemoglobin	< 11.9 g/100 ml*	4	17.30	3	13.00
Glucose	> 100 mg/100 ml	5	21.70	6	26.00
Vitamin C	< 0.19 mg/100 ml*	0	0.00	0	0.00
Triglycerides	> 165 mg/100ml‡	15	65.20	8	34.70
Iron	< 40 g/100 ml*	0	0.00	0	0.00
Sodium	> 130 mEq/l§	21	91.30	16	69.50
Plasma cholesterol	> 250 mg/100 ml§	6	26.00	6	26.00
VLDL-cholesterol	> 100 mg/100 ml§	5	21.70	0	0.00
Systolic pressure	> 140 mmHg†	16	69.50	11	47.80
Diastolic pressure	> 90 mmHg	17	73.90	6	26.00

*Adapted from Laboratory Tests for the Assessment of Nutritional Status.²⁴

†Adapted from Cummingham Pathology Associates.

‡Adapted from American Hospital Supply Corporation.

§Adapted from our data.

Our previous study⁹ showed that there was a significant positive relationship between globulin and both diastolic and systolic pressures among black populations. This result was also confirmed by another study in this laboratory¹⁰ for blacks and whites, and for men and women. The relationship is also supported by a study²⁶ showing that globulin fractions were significantly higher in blacks than in whites, whereas albumin levels were higher in whites than in blacks. The ratio of albumin to globulin was significantly higher in whites than in blacks (1.37 vs 1.66 for women, 1.44 vs 1.60 for men). Accordingly, the blood pressure and the proportion of hypertension were significantly higher in blacks than in whites. Moreover, vitamin C levels were significantly lower in blacks than in whites.

In the present study the ratio of albumin to globulin was less than the normal value of 1.2 at the beginning. The ratio was increased to the normal range at the end of the study although it was not statistically significant. The numbers of subjects with abnormally high levels of globulin fractions were consistently reduced by vitamin C treatment.

Even though that was true, the mechanisms involved are not apparent. One possible mechanism may involve the renin-angiotensin system. The renin-angiotensin system has usually been regarded as a blood-pressure-regulating system of renal origin. Renin is a proteolytic enzyme that requires globulin as its substrate. Renin acts on its substrate (globulin) to produce angiotensin I. Then angiotensin I is converted to angiotensin II, the most powerful natural pressor substance. Cain et al²⁷ found 85% of the total immunoglobulin to be angiotensin II in arterial blood. Therefore, it may be concluded that vitamin C treatment would decrease angiotensin II production through the reduction of the substrate, globulin for renin enzyme.

The present study suggests that vitamin C may control hypertension in two ways: first, by lowering the sodium content of the blood, and second, by changing protein fractions, ie, increasing albumin and decreasing globulin fractions. However, further studies are required to clarify the role and mechanisms of vitamin C in hypertensive and normotensive persons.

(continued)

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Eunsook T. Koh, PhD, School of Human Development, University of Oklahoma, 610 Elm Avenue, Norman, Oklahoma 73019.

Eunsook T. Koh, PhD, is a professor of nutrition in the School of Human Development, University of Oklahoma in Norman. He earned his degree in 1973 at the University of Maryland, Baltimore.

Our Annual National Holocaust

Physicians of Oklahoma may well take a lesson from the pages of the past on the frivolities of the 4th of July now nearly upon us and try to do something along the line of preventive medicine or rather "preventive foolishness."

Each year adds to the list of victims of this day, until instead of being our national celebration it is fast becoming our national holocaust.

Many of the larger cities have hospitals and dispensaries where these cases receive immediate and proper treatment without cost to the injured person, the system is good as can be under the circumstances, but it irritates one to know that the initial trouble could be prevented by enactment and enforcement of proper laws.

Oklahoma has received so much criticism

on account of its newly made laws that another departure from the usual might well be made in this case and laws passed prohibiting the use of unnecessary fireworks, or at least limiting their use to certain places and times. While in certain quarters this law would probably be received as was our nine-foot sheet regulation, with derision, that would not prevent it from being timely legislation, in keeping with the trend of modern advancement and not a stinging reflection on our civilization as it is today.

A movement by our various city and county medical organizations should be inaugurated in order to secure the legislation necessary to remedy this evil.

—OSMA Journal
June 1909

Oklahoma Indians Have Lower Cardiovascular and Cancer Mortality Rates Than Oklahoma Whites

RAY STRATTON
RON STRATTON, PhD

Do the two groups differ as to diet, smoking, exercise, blood lipids, and coronary-prone behavior patterns?

Oklahoma Indians and whites differ significantly in mortality rates for several major diseases (Tables 1 through 4). It is well known that mortality rates for diabetes and cirrhosis are higher for Indians than for whites. It is not as well known that mortality rates for the two leading causes of death — cardiovascular disease (CVD) and cancer — are significantly lower for Indians than whites. As can be seen by comparing Tables 1 and 2, the racial difference for CVD is greater for women than for men and is concentrated in the older age groups. The Indian cancer rates, on the other hand, are uniformly low for both sexes and for all age groups.

It is sometimes suggested that the reason Oklahoma Indians have low CVD and cancer rates is that they die at an early age of cirrhosis. As one can see from Tables 1 through 4,

this grossly overstates the case. Indian deaths from cirrhosis are high compared to white cirrhosis deaths, but cirrhosis deaths for both Indians and whites are very low compared to deaths for cancer and CVD.

Ray Rosenman, MD ("Type A Behavior and Your Heart") from Stanford Research Institute (SRI) would like to see Oklahoma researchers do more to investigate these differences. In his talk to the Oklahoma Medical Research Foundation (OMRF) in January 1983, Rosenman emphasized that all the known coronary heart disease (CHD) risk factors combined account for only 30% of CHD incidence.

We feel that in his OMRF presentation Rosenman tended to overstate the case for Type A Behavior Pattern (TABP) in comparison to other risk factors such as smoking, hypertension, blood lipids, and exercise. In conversations with smaller groups, however, he was quite willing to concede that TABP, as it is now formulated, is not the whole answer. He urged Oklahoma investigators to conduct studies that would compare Indians and whites for all standard CHD risk factors, including TABP.

(continued)

To our knowledge there have been no scientifically controlled comparisons of Oklahoma Indians and whites for smoking, diet, exercise, hypertension, or blood lipids. Many Oklahomans have their opinions about the relative smoking and eating habits of the two groups, but these are based on very few scientific assessments.

In addition to the variation in mortality, there are some other indications that such comparisons might be very valuable. The late Dr Kelly West found that the high prevalence of diabetes in Indians was very closely associated with obesity.¹ However, Indian women who took part in the Oklahoma Lipid Research Clinic screening had a lower cholesterol level than white women. The number was too small for any firm conclusions.²

Rosenman became interested in Oklahoma when he read our paper suggesting that the low rate of cardiovascular mortality among Oklahoma Indians may be due to an absence of TABP. Type A behavior is characterized by time urgency, competitiveness, impatience, aggressiveness, and frequent expression of anger. Having lived in Oklahoma all our lives, we are convinced that Oklahoma Indians are, in general, less inclined to these coronary-prone behavior patterns than Oklahoma whites. The Type A person is, for example, in an everlasting struggle with time and a never-ending series of deadlines. Oklahoma Indians have a much more relaxed behavior in regard to time. Both Indians and whites some-

times refer to this behavior as "Indian Time."

We could give much more anecdotal information supporting the belief that Indians are also less competitive, impatient, and aggressive than whites. Rosenman was not satisfied with our anecdotal information, however. He and his associates have long used a structured interview (SI) to assess TABP. The SI was developed primarily for middle- and upper-class American and European men. If appropriate studies could be developed in Oklahoma, Rosenman would be eager to adapt the SI for use with Indians and to train investigators in TABP assessment. Such training is provided annually at SRI.

The association between TABP and CHD prevalence and incidence in middle- and upper-class males in the US and Europe is now firmly established. Work is only beginning in other geographical areas with other cultural groups. This work is showing promise. Prospective studies indicate that after adjustment for all other risk factors, the incidence of CHD is two to three times higher in Framingham³ than in areas that are believed to have a low prevalence of TABP, such as Yugoslavia, Puerto Rico, Japan, Hawaii, and Paris.³⁻⁵ Efforts to adapt the SI and other instruments used to assess TABP in other cultural groups result in a continual refinement of the TABP concept. Take the Japanese studies for example. In earlier American and western European studies, "hard driving" and "hard working" were considered by both subjects and inves-

Table 1. 1980 Oklahoma Indian and White Cardiovascular Mortality Rates Per 10,000 by Age Group and Sex

Age	Men		Women	
	White	Indian	White	Indian
-20	0	0	0	0
20	1	0	1	1
30	4	6	1	4
40	17	22	6	2
50	56	86	16	21
60	137	101	58	46
70	342	203	189	125
80+	936	366	715	338
Adj	49	35	32	20

Raw data for Tables 1-4 are provided by the Oklahoma State Department of Health. We are indebted to Trudy Bush, PhD, of the Oklahoma Medical Research Foundation for doing the age adjustments.

Table 2. 1980 Oklahoma Indian and White Malignant Neoplasm Mortality Rates Per 10,000 by Age Group and Sex

Age	Men		Women	
	White	Indian	White	Indian
-20	1	1	0	0
20	2	1	1	0
30	3	5	3	0
40	10	2	10	3
50	69	24	25	15
60	86	56	97	33
70	133	69	68	64
80+	204	229	91	113
Adj	26	15	17	10

Table 3. 1980 Oklahoma Indian and White Diabetes Mortality Rates Per 10,000 by Age Group and Sex

Age	Men		Women	
	White	Indian	White	Indian
-20	0	0	0	0
20	0	0	0	0
30	1	0	0	0
40	1	2	1	5
50	1	9	1	4
60	2	15	3	15
70	6	14	7	3
80+	8	61	10	8
Adj	1	4	1	2

Table 4. 1980 Oklahoma Indian and White Cirrhosis Mortality Rates Per 10,000 by Age Group and Sex

Age	Men		Women	
	White	Indian	White	Indian
-20	0	0	0	0
20	0	0	0	0
30	0	6	0	4
40	1	4	1	2
50	5	4	2	4
60	4	15	2	4
70	5	15	2	7
80+	3	0	1	0
Adj	1	4	1	2

tigators to be virtually synonymous. Japanese subjects felt there was an important difference. Most considered themselves hard working, but not hard driving.⁶

Analysis of data from the Western Collaborative Group Study shows that the various components of the TABP do not have equal strength in predicting CHD incidence. This is illustrated in one of Rosenman's comments when someone said to him, "You seem like somewhat of a Type A person yourself." "I am Type A," he said. "I work hard and fast. But I am not a coronary-prone Type A." He was referring to the fact that in prospective studies, "hard working" and "speedy activity," originally considered important components of TABP have low predictive value. Time consciousness, impatience, anger, and competitiveness have high predictive value.

Studies in the area of coronary-prone behavior seem to be shifting in emphasis from the competitive, hostile, hard-driving male to more Type B groups: women, racial minorities, and members of other cultures. This is why Rosenman is so interested in Oklahoma Indians. He feels it is unfortunate that so much effort and so many research dollars are being spent on trying to understand why the Japanese have low CHD when we should be trying to understand why American Indians have low CHD. We agree.

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Ray Stratton, Administrative Officer, Central State Hospital, Norman, Oklahoma 73070.

Ray Stratton is a former mental hospital chaplain and is currently mental health archivist at Central State Hospital in Norman. He earned his Master of Theology degree from Southern Methodist University, Dallas, in 1958. He has published several papers on the social and health conditions of Oklahoma Indians.

Ron Stratton, PhD, was at the Department of Preventive Cardiology, Hillcrest Medical Center, Tulsa, at the time this paper was written. He is now the director of Children's Medical Center's APPLE program (Athletic Performance and Positive Lifestyle Education) in Tulsa. Stratton was a 1982 graduate of the University of Oklahoma Health Sciences Center and is a member of the American College of Sports Medicine.



News from the Oklahoma State Department of Health

Genetics Counseling Network

The Genetics Counseling Network (GCN) of the Oklahoma State Department of Health has expanded its services to six regional clinics serving virtually all of Oklahoma this year. The newest clinic opened in Ada in January at the Pontotoc County Health Department.

The GCN provides clinical evaluation, physical examination, genetics and prenatal counseling, laboratory studies, referral, and follow-up for patients who may be concerned about genetic disorders.

The regional clinics make these services available to virtually anyone in the state. There is no fee charged for services provided at the clinics. Laboratory fees, if such work is required, are based on the various laboratories' schedules.

In addition to providing these services in a convenient location, usually a county health department, the clinics make available the resources of the genetics programs at three metropolitan hospitals. The centers at Tulsa's Children's Medical Center or Oklahoma City's Presbyterian and Children's Memorial hospitals serve as "home bases" for teams of physicians and counselors with special training in human genetics.

The other regional genetics clinics are located in Clinton, Enid, Lawton, Claremore, and Muskogee. A seventh clinic has been proposed, and its location will be announced in the near future. Patients who may require more extensive evaluation or treatment are referred to the three metropolitan centers.

DISEASE	March 1984	TOTAL TO DATE		
		This Year	Last Year	5 Yr. Avg.
AMEBIASIS	2	2	2	4
CAMPYLOBACTER INFECTIONS	13	33	19	—
ENCEPHALITIS, INFECTIOUS	1	1	4	4
GIARDIA INFECTIONS	14	40	36	—
GONORRHEA (Use ODH Form 228)	992	3181	4056	3352
HAEMOPHILUS INFLUENZAE				
INVASIVE DISEASE	26	55	37	—
HEPATITIS A	37	110	101	88
HEPATITIS B	38	75	65	45
HEPATITIS, NON-A NON-B	1	4	11	—
HEPATITIS UNSPECIFIED	7	24	62	46
MEASLES (RUBEOLA)	0	0	0	31
MENINGITIS, ASEPTIC	2	7	23	13
MENINGITIS, BACTERIAL				
(non-meningococcal,				
non H. Influenzae)	7	11	26	11
MENINGOCOCCAL INFECTIONS	5	14	13	12
PERTUSSIS	21	28	11	5
RABIES (Animal)	14	27	35	43
ROCKY MOUNTAIN				
SPOTTED FEVER	0	0	1	0
RUBELLA	0	0	0	0
SALMONELLA INFECTIONS	22	64	98	54
SHIGELLA INFECTIONS	6	30	20	46
SYPHILIS (Use ODH Form 228)	26	56	66	45
TETANUS	0	0	0	0
TUBERCULOSIS	34	57	59	78
TULAREMIA	0	1	0	0
TYPHOID FEVER	1	1	0	0

Diseases of Low Frequency	Total to Date This Year
ACQUIRED IMMUNE DEFICIENCY SYNDROME	2
BRUCELLOSIS	1
LEGIONNAIRES DISEASE	3
MALARIA	2
REYE SYNDROME	10
TOXIC SHOCK SYNDROME	4
RABIES	
MARCH 1984	
BECKHAM	SKUNK 1
CADDO	SKUNK 1
COMANCHE	COW 1
GRADY	SKUNK 4
LOVE	SKUNK 1
MAYES	RACCOON 1
NOBLE	CAT 1
PUSHMATAHA	SKUNK 1
STEPHENS	DOG 1
WAGONER	SKUNK 2

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Hyperbaric oxygen therapy draws OSMA scrutiny

Hyperbaric oxygen therapy is the subject of a position statement adopted by the Oklahoma State Medical Association (OSMA) Board of Trustees at its February 19 meeting.

The statement was proposed by the Council on Medical Services because of growing concern about the potential abuse of hyperbaric oxygen therapy in the state. Council members felt that failure to adopt an official stand on the issue might put the OSMA in a position of appearing to encourage entrepreneurs to perform unscientific hyperbaric oxygen therapy.

The council's statement was developed after study of the best available scientific information on the subject, and embraces the indications and recommendations contained in the Hyperbaric Oxygen Therapy Committee report of the Undersea Medical Society, Bethesda, Md. It reads as follows:

The Oklahoma State Medical Association recognizes that the evolving therapeutic and research applications of hyperbaric oxygen therapy are increasingly important technological methodologies for management of certain acute and serious chronic medical conditions.

Because of the potential for abuse of this

technological advance, the OSMA proposes that the treatment of those medical conditions be limited to those which are set out in the communication *Hyperbaric Oxygen Therapy*, A Committee Report, Revised 1983, Undersea Medical Society, Inc., 9650 Rockville Pike, Bethesda, Maryland 20814, USA.

Those approved conditions are under the general heading "Currently Accepted Indication," beginning with page 3 of the attached report.

The OSMA further approves the recommendations of the Committee Report as to the location of the equipment and applications of treatment to the hospital setting. The specific guidelines recommended by OSMA are located on pages 35-38 of the report.

Finally, OSMA recognizes that there will be certain individual life or limb threatening cases for which clear-cut indications have not been set out but for which there is strong evidence that hyperbaric oxygen would be of value. On such individual cases, the decision on third-party payments can be referred to the Peer Review Committee of the Undersea Medical Society as described on page 2 of the committee report.

The report lists those currently accepted indications for treatment which, it says, will not be questioned by insurance carriers. □

Doppler diagnosing disease for OTH cardiologists

The Doppler effect, perhaps most familiar to Oklahomans in discussions of severe spring weather or radar speed traps, is now being used to study certain forms of heart disease as well.

Oklahoma Teaching Hospitals (OTH) now employ a Doppler technique, which uses changes in light, sound, or electromagnetic waves to detect and measure movement, to diagnose diseased heart valves by clocking blood flow through the heart.

"When a valve goes bad it is marked by an increase in the speed of blood that flows through it," says Stephen Teague, MD, an expert in Doppler ultrasound and a cardiologist at Oklahoma Memorial Hospital in Oklahoma City. "By detecting these elevated velocities we can not only establish the presence of abnormalities, we can also measure the severity."

The introduction of continuous wave Doppler ultrasound, an established European technique, into American medical practice promises to reduce the cost of diagnosing heart disorders to one-tenth that incurred by cardiac catheterization, according to OTH.

Catheterization, the most widely used cardiac diagnostic technique to date, requires an average hospital stay of two days. The newest ultrasound technology can be performed by a cardiologist during an office visit.

The physician moves a small transducer or probe across the patient's chest. High-frequency sound waves emitted from the probe penetrate body tissues, and when the waves strike flowing blood, their pitch changes. Data on the changes in pitch are displayed on a monitor screen, giving the doctor information needed to diagnose the disorder. □

Most women miss best chance to detect cancer

Two-thirds of American women (63%) do not perform monthly breast self-examination (BSE), according to figures released by the American Institute for Cancer Research.

Despite the fact that 95% of the women polled by the Gallup Organization report they have heard of BSE, only 30% of them say they have practiced BSE at least once a month (the recommended frequency) during the past year.

Still, more than 80% of the women interviewed agree there is a lot of value in the early detection of breast cancer, and a similar number report they have practiced breast self-examination at least once.

Launching its public information and awareness effort in April, the cancer institute stated, "There is a gap between women's awareness of breast cancer treatment and their willingness to participate in early detection practices. Clearly, the mass of public education materials has not bridged the gap between awareness and action, and we must develop more effective ways to change women's behavior. The most effective means of detecting breast cancer is self-examination, and women still aren't doing it."

Of those women who said they had heard

of BSE but performed it less often than once a month, most of them (63%) stated, "It's just something I don't think about doing." Other major reasons cited by this group included: "I don't think I could detect a problem" (56%), "I intend to and I forget" (55%), and "I see a doctor frequently and the doctor does it" (52%).

Age plays a part in women's attitudes toward BSE, the survey shows. Women under age 29 and over age 50 are almost twice as likely as women age 30 to 49 to have never practiced BSE. Among those who did self-examinations, there was no significant difference between age groups in frequency of examination. Older women, however, were more likely to respond, "I think only a doctor should do it," and "I'm not that concerned about breast cancer," even though the risk of developing breast cancer increases with age.

A woman's doctor is most likely to be her source of information on breast self-examination. According to the survey, 77% of the women who had practiced BSE in the last year learned about it from their doctors. Of those women who said they had never done a BSE, 45% failed to mention a doctor as a source of information. □

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Consensus panel clears insomnia cobwebs

"Drugs and Insomnia: The Use of Medications to Promote Sleep" is the title of a Consensus Development Panel report from the National Institute of Mental Health and the National Institutes of Health (NIH).

Insomnia, because it appears in different diagnostic contexts and under a variety of circumstances, is often difficult for the physician to treat properly and effectively. The report comes as a result of a Consensus Development Conference convened last November to address the complex problem and to develop principles to facilitate its diagnosis and treatment.

The panel formulated answers to the following questions:

1. Under what circumstances might a sleep-promoting medication be considered; in what types of sleep disturbances are sleep-promoting medications undesirable?

2. What are the pharmacologic factors to be considered in the selection of sleep-promoting medications?

3. What are the appropriate treatment strategies to be employed in using sleep-promoting medications on a short-term or long-term basis?

4. What are the principal cautions and risks associated with prescribing these drugs; what special considerations should be applied in regard to medical status, age, concurrent drug use, or other factors?

5. What research areas need further development?

The report was prepared by a panel of experts, who considered scientific evidence presented at the conference. It contains recommendations and conclusions concerning drugs and insomnia.

Free, single copies of the Consensus Statement are available from Michael J. Bernstein, Office of Medical Applications of Research, Building 1, Room 216, National Institutes of Health, Bethesda, Maryland 20205. □

Doctors asked to sound off about PPS/DRG experiences

A program to monitor physicians' experience with the Proposed Payment System (PPS) is being launched by the American Medical Association (AMA).

Under the recently implemented PPS, most hospitals participating in Medicare will be reimbursed at a flat rate according to a diagnosis related group (DRG).

The AMA is interested in learning of individual physicians' experiences, both positive and negative, with the PPS. While all relevant experiences are of interest, areas of particular concern are costs of care, quality of care, length of hospital stay, hospital admission/discharge policies, medical staff relations with hospital administration, and utilization review.

Doctors are urged to describe their experiences in brief letters addressed to AMA DRG Monitoring Project, Department of Health Care Resources, PO Box 10947, Chicago, Illinois 60610. □

Funds allotted to study results of different practice patterns

Do differences among physicians' practice patterns lead to differences in treatment results for patients?

This question will be scrutinized in a new University of Chicago study funded by the Robert Wood Johnson Foundation of Princeton, NJ.

The study will explore whether the functional status of a patient with diabetes, for example, improves when treated by an endocrinologist instead of a family physician.

Researchers will also examine whether less costly methods of personal medical care delivery can be as successful in achieving desirable outcomes as more expensive options. For example, is a patient's health status better when treated in a health maintenance organization (HMO) or by a private physician?

The physician sample will be drawn from the specialties of internal medicine, general and family practice, and pediatrics. The patient samples will consist of individuals with as-yet-unspecified "tracer" conditions. □

Deaths

CHARLES H. COOKE, MD
1896 - 1984

Longtime Perry physician Charles H. Cooke, MD, died March 23 at the Green Valley Nursing Center. An Oklahoma native born in Hennessey, Cooke was graduated from the University of Kansas School of Medicine in 1924, after serving in the armed forces in 1917 and 1918. He opened his first general practice in Augusta, Kan, moving later to Okmulgee and then to Perry, where he established the town's first hospital in 1933. Cooke continued in private practice until his retirement in 1977.

DONALD J. WORDEN, MD
1952 - 1984

Donald James Worden, MD, was born in Marshfield, Wis, and was graduated from the University of Wisconsin Medical School in Madison in 1980. He began a residency in family practice at University of Oklahoma Tulsa Medical College, and while on a leave of absence from OU practiced family medicine at Watonga Medical Hospital. Ill health forced his return to Tulsa, where he died April 1.

WILLIAM I. JONES, MD
1931 - 1984

General practitioner William I. Jones, MD, died April 3 at his home in Stroud. Jones was graduated from the University of Oklahoma College of Medicine in 1960; he took his internship at Santa Rosa Hospital in San Antonio, and opened his practice in Stroud in 1961. Jones was born in Tryon, Okla, and during the Korean War served in the US Air Force from 1949 to 1953.

In Memoriam

1983

<i>George M. Adams, MD</i>	<i>May 3</i>
<i>John R. Reid, Jr, MD</i>	<i>June 14</i>
<i>Gilbert E. Haslam, Jr, MD</i>	<i>June 15</i>
<i>Thomas A. Trow, MD</i>	<i>June 23</i>
<i>Richard D. Mullett, MD</i>	<i>June 28</i>
<i>Aaron C. Little, MD</i>	<i>July 1</i>
<i>Michael C. Manning, MD</i>	<i>July 3</i>
<i>Hillard E. Denyer, MD</i>	<i>August 8</i>
<i>Edward A. Allgood, MD</i>	<i>August 18</i>
<i>Hugh E. Wilson III, MD</i>	<i>August 27</i>
<i>Harold J. Black, MD</i>	<i>September 1</i>
<i>Marque O. Nelson, MD</i>	<i>December 24</i>
<i>Park H. Medearis, MD</i>	<i>December 26</i>
<i>Charles S. Beaty, MD</i>	<i>December 28</i>

1984

<i>Jack H. Foertsch, MD</i>	<i>January 19</i>
<i>Thomas L. Ozment, MD</i>	<i>February 11</i>
<i>Thomas L. Foster, MD</i>	<i>February 25</i>
<i>Robert W. Lowrey, MD</i>	<i>February 27</i>
<i>Ella Mary George, MD</i>	<i>March 1</i>
<i>Kemper C. Lain, MD</i>	<i>March 8</i>
<i>William R. Cheatwood, MD</i>	<i>March 12</i>
<i>William A. Dean, MD</i>	<i>March 19</i>
<i>Charles H. Cooke, MD</i>	<i>March 23</i>
<i>Donald J. Worden, MD</i>	<i>April 1</i>
<i>William I. Jones, MD</i>	<i>April 3</i>

Miscellaneous Advertisements

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PRIMARY CARE: SELECTED INFECTIOUS DISEASES, October 16-18, 1984, KAUAI, Hawaii. Sponsors: Health Science Seminars and Extended Programs in Medical Education, University of California. Contact: Cynthia Vaughan, P.O. Box 22023, San Francisco, CA 94122; or call (415) 861-2713. 6

VIRGINIA HEART INSTITUTE provides on-site consultation for administrators interested in the development of ambulatory facilities including outpatient cardiac catheterization. If interested, write Patricia Ferree at Virginia Heart Institute, 205 N. Hamilton Street, Richmond, Virginia 23221. 6

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OFFICE SPACE for sublease available July 1, 1984. 4720 S. Harvard, Suite 202, Tulsa, OK 74135, (918) 749-5751. 1,330 square feet. 2 consulting offices, 3 examining rooms, 2 rest rooms, waiting room, business office, staff lounge. Office is completely furnished and equipped. Furniture and equipment available for sublease.

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Before prescribing, see complete prescribing information in SK&F CO. literature or PDR. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

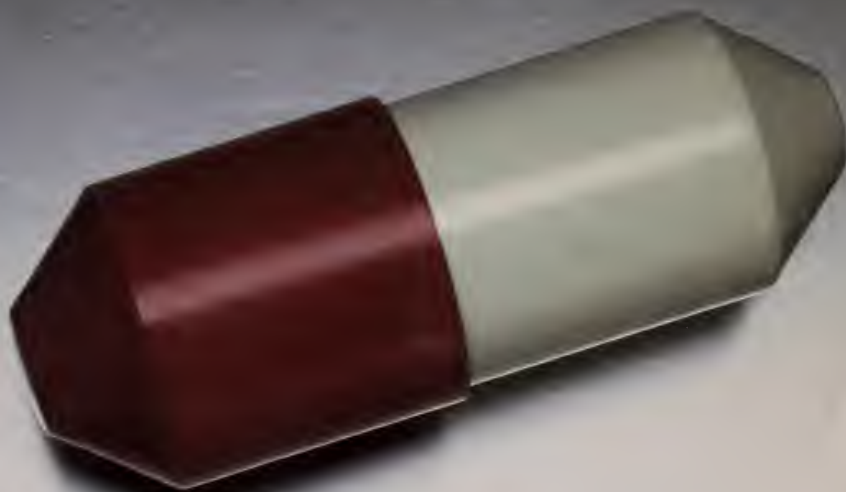
Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances, postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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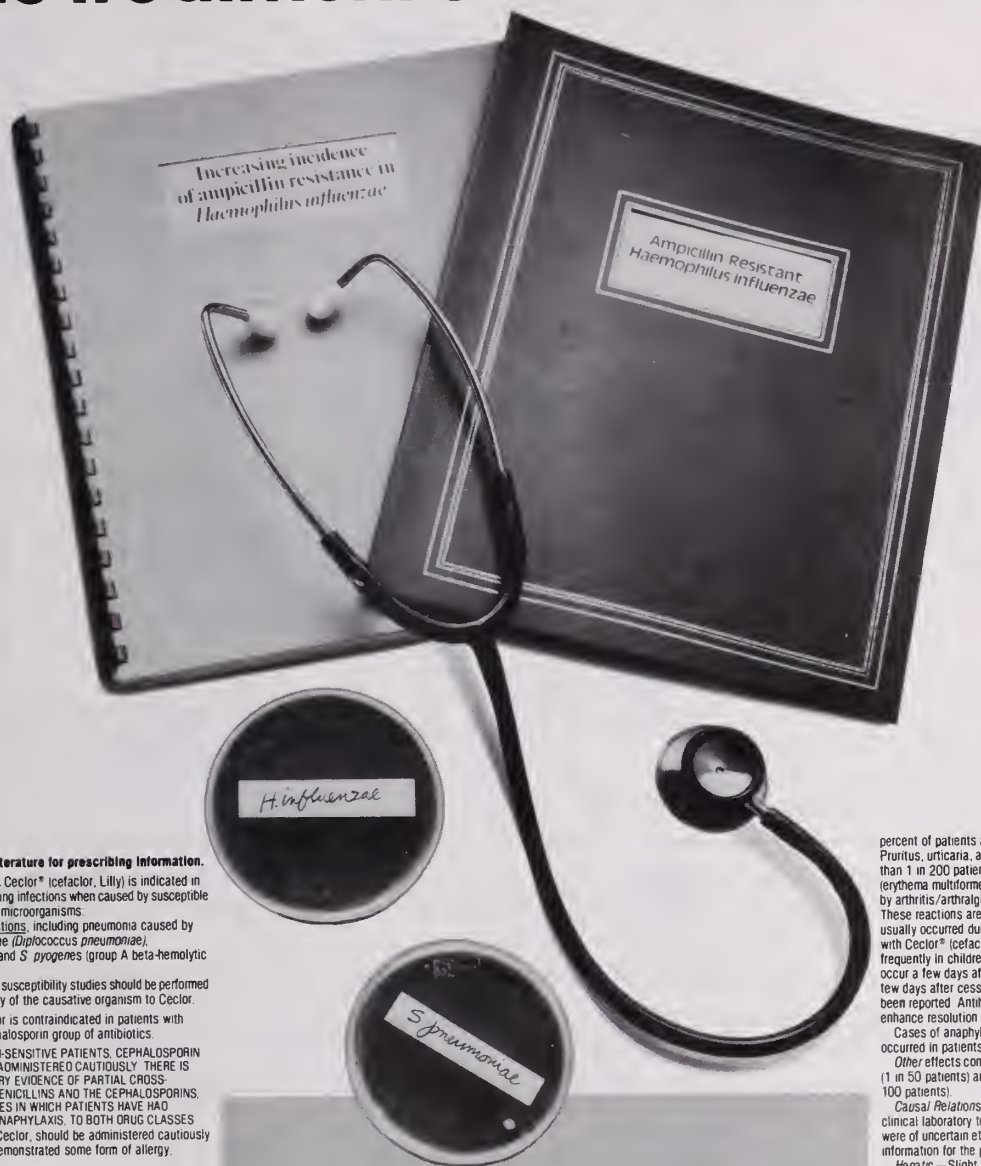
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An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefclor® (cefadroxil, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES. Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefadroxil occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefadroxil may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended. As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy: Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in fetuses given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy: Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefadroxil therapy are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Cefclor.

Hypersensitivity reactions have been reported in about 1.5

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.⁷

Cefclor®

cefadroxil

Pulvules®, 250 and 500 mg

percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefclor® (cefadroxil). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy. Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). (100281R)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

- 1 Antimicrob Agents Chemother., 8:91, 1975
- 2 Antimicrob Agents Chemother. 11:470, 1977
- 3 Antimicrob Agents Chemother. 13:584, 1978
- 4 Antimicrob Agents Chemother. 12:490, 1977
- 5 Current Chemotherapy (edited by W. Seegenthaler and R. Luthy). H 880. Washington, D.C. American Society for Microbiology, 1978
- 6 Antimicrob Agents Chemother., 13:861, 1978
- 7 Data on file, Eli Lilly and Company
- 8 Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr. and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979



Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285. Eli Lilly Industries, Inc., Carolina, Puerto Rico 00630.

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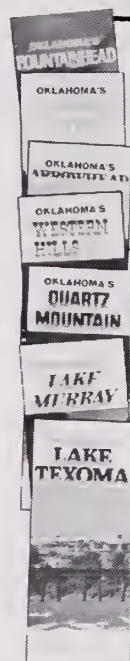
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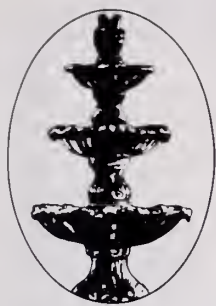
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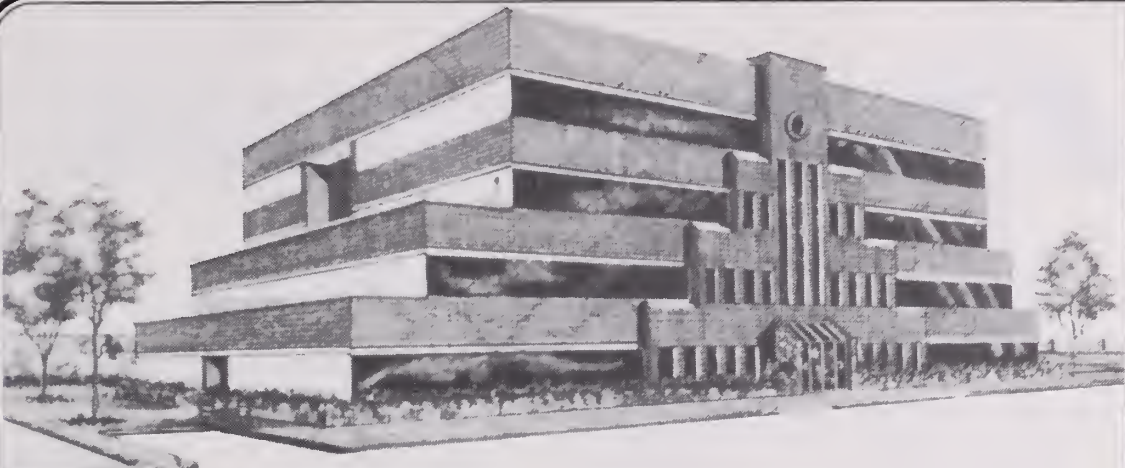
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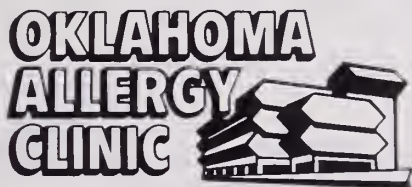
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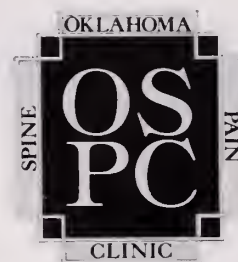
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JOURNAL

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Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name and author, title or article, name of periodical with volume number, page and date of publication. These references should be numbered in the sequence in which they appear in the article.

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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. General and miscellaneous advertising rates will be sent on request.

EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

REPRINTS

Authors will receive reprint order forms from the Transcript Press, PO Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

■ **Five Oklahoma City physicians** were recently elected to Fellowship in the American College of Physicians. The new Fellows are Robert W. King, Jr., MD; Ralph Lazzara, MD; Hanna A. Saadah, MD; Ralf E. Taupmann, MD; and Jerry A. Vannatta, MD. Formal induction was April 26-29 at the College's Annual Session in Atlanta.

■ **The Pottawatomie County Medical Auxiliary** recently honored Jerold D. Kethley, MD, Shawnee, for his outstanding medical achievements and dedication to medical advancements in his county. Criteria for the special recognition include having been in practice more than 30 years and/or having done something outstanding for the community. Kethley has had a private practice in general surgery in Shawnee since July 1954.

■ **Dr Larry Biehler, Oklahoma City** pediatrician, has returned from a ten-day medical trip to El Salvador and Guatemala, and is planning a second trip in July. Biehler and his family and a fifteen-member medical team distributed more than \$40,000 worth of medicine, clothes, and toys to thousands of needy people in the region. Director and cosponsor of the medical team, Biehler helped collect the donations that he and his team distributed. During their stay in Central America they treated almost 10,000 patients. For information about joining the team or donating to the project, call cosponsor "Feed the Children" of Oklahoma City, (405) 942-0228.

■ **At the Oklahoma Academy of Family Physicians** annual scientific assembly in Tulsa April 12-15, William C. McCurdy of Purcell was honored by his peers as Oklahoma's Outstanding Family Doctor for 1984. He will now be considered for the national Family Doctor of the Year Award from the American Academy of Family Physicians.

■ **Physician's income declined 3.0%** in the six-month period ending in September 1983, compared with the same period in 1982. The decline was the first reduction in average quarterly net income recorded by the Socio-economic Monitoring System since the program began in 1981. All major specialty groups experienced a decrease, although surgical specialties reported only a minimal loss. The AMA cautioned that the survey program had not accumulated enough evidence to determine whether the decline was the beginning of a trend or merely a transitory phenomenon.

■ **Tulsa pediatrician Robert K. Endres, MD**, has been named director of diabetes education and research at the Southwestern Metabolism and Diabetes Center at St Francis Hospital. Endres, who specializes in the treatment of juvenile diabetes, helped establish the center in 1975.

■ **The Oklahoma Cardiovascular Institute** in Oklahoma City recently named four new appointees to its board of governors, including Zaheer Baber, MD, of Midwest City. The institute is involved in clinical research activities, education programs, and patient evaluation for cardiovascular disorders.

■ **The Federal Trade Commission (FTC)** reports it is closing an investigation of the AMA operating criteria for freestanding emergency centers. The guidelines were developed by the Commission on Emergency Medical Services. The American Association of Freestanding Emergency Centers (AAFEC) had petitioned the FTC to initiate the investigation, charging that the AMA was restraining the ability of such centers to compete with hospital emergency rooms. The FTC found no basis for filing a complaint against the AMA. It asked both the AMA and the AAFEC for assistance in a study of the centers' use of such terms as "emergency" and "urgent care."

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References: 1. Kales J et al: *Clin Pharmacol Ther* 12:691-697, Jul-Aug 1971. 2. Kales A et al: *Clin Pharmacol Ther* 18:356-363, Sep 1975. 3. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 4. Kales A et al: *Clin Pharmacol Ther* 32:781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 6. Kales A, Kales JD: *J Clin Pharmacol* 3:140-150, Apr 1983. 7. Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther* 21:355-361, Mar 1977. 8. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 9. Amrein R et al: *Drugs Exp Clin Res* 9(1):85-99, 1983. 10. Monti JM: *Methods Find Exp Clin Pharmacol* 3:303-326, May 1981. 11. Greenblatt DJ et al: *Sleep* 5(Suppl 1):S18-S27, 1982. 12. Kales A et al: *Pharmacology* 26:121-137, 1983.

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